Attachment F, 44140 MUW Revised AV Drawings.xlsx

AV Backbox & Power Distribution Schedule

Type	Box	Mounting Height	Mounting Config	Supplied By	Installed By	Function	Note	Power Receptacle	Estimated Load	Circuit
AC	Hoffman ASE6x6x4	+18" AFF	Surface	Div 16/26	Div 16/26	AV Rack Power Feeder	Provide flex direct to AV rack, coordinate with AV Contractor.	120VAC, 20A	8500W	4
AVK	Hoffman ASE6x8x4	+18" AFF	Flush	Div 16/26	Div 16/26	AV Equipment J-Box		120VAC, 20A duplex	240W	1
CA	2 gang	Ceiling	Flush	Div 16/26	Div 16/26	Camera Plug Box		120VAC duplex	180W	NA
CM	2G, 3.5" deep	+10' AFF, verify	Flush	Div 16/26	Div 16/26	Camera Plug Box		120VAC, 20A duplex	40W	1
CU	2G, 3.5" deep	+48" AFF, verify	Flush	Div 16/26	Div 16/26	Control Panel		NA	NA	NA
DS	2G, 3.5" Deep	+70" AFF, verify	Flush	Div 16/26	Div 16/26	Video Display Plug Box		120VAC, 20A duplex	180W	1
FB	FSR FL-200-4 + FL-200-PLP-BLK-C U-Access Cover	Floor	Flush	Div 16/26	Div 16/26	Combined AV & power floor box	Coordinate with AV Contractor	120VAC, 20A duplex	180W	1
IDF-1	Hoffman ASE24X24X8NK	+8' AFF	Suspended	Div 16/26	Div 16/26	AV Pull Box		NA	NA	NA
IDF-2	Hoffman ASE24X24X8NK	+8' AFF	Suspended	Div 16/26	Div 16/26	AV Pull Box		NA	NA	NA
J-112	NEMA Type 1, 12x12x6 or as req.	12" Above Finished LAT Ceiling	Suspended	Div 16/26	Div 16/26	AV J-Box		NA	NA	NA
J-113	NEMA Type 1, 12x12x6 or as req.	12" Above Finished LAT Ceiling	Suspended	Div 16/26	Div 16/26	AV J-Box		NA	NA	NA
LV	4S w/1G trim	+48" AFF, verify	Flush	Div 16/26	Div 16/26	Motorized Screen Control		NA	NA	NA
M	2G Deep Type w/2G trim	Ceiling	Flush	Div 16/26	Div 16/26	Microphone Plug Box		NA	NA	NA
MDF	Hoffman ASE36X24X8NK	+8' AFF	Suspended	Div 16/26	Div 16/26	AV Pull Box		NA	NA	NA
OC	Hoffman ASE4x4x4	+48" AFF, verify	Flush	Div 16/26	Div 16/26	Camera Plug Box	Stub 1" C. into accessible ceiling for access to AVK.	NA	NA	1
PJ	2G, 3.5" Deep	Ceiling	Flush	Div 16/26	Div 16/26	Video Projector Plug Box		120VAC, 20A duplex	4500W	1
PP	2G, 3.5" Deep	+18" AFF	Flush	Div 16/26	Div 16/26	AV Plug Box		120VAC, 20A duplex	180W	1
RF	Hoffman ASE4x4x4	Ceiling	Flush	Div 16/26	Div 16/26	Antenna Plug Box		NA	NA	NA
RX	4S w/2G trim	Ceiling	Flush	Div 16/26	Div 16/26	AV Data J-Box		120VAC 20A, duplex	180W	1
SC	Hoffman ASE4x4x4	Ceiling	Flush	Div 16/26	Div 16/26	Motorized Screen J-Box	Flex directly to screen motor housing. Provide flush-mount access door.	120VAC 20A, direct wired.	1200W	1
SJ	Hoffman ASE4x4x4	Ceiling	Surface/Suspended	Div 16/26	Div 16/26	Loudspeaker Pull Box		NA	NA	NA
VD	2G, 3.5" Deep	+70" AFF, verify	Flush	Div 16/26	Div 16/26	Video Display Plug Box		120VAC, 20A duplex	240W	1

Technical Systems Field Panel Legend		
Symbol	Configuration	
TL	Wall, (Flush or Surface)	All field boxes are designated with a Type that corresponds to the AV Systems Integration drawings.
FP	Flush Floor	Type Designator -TL
FP	Flush Ceiling	
IDF	Suspended or Pedestal	

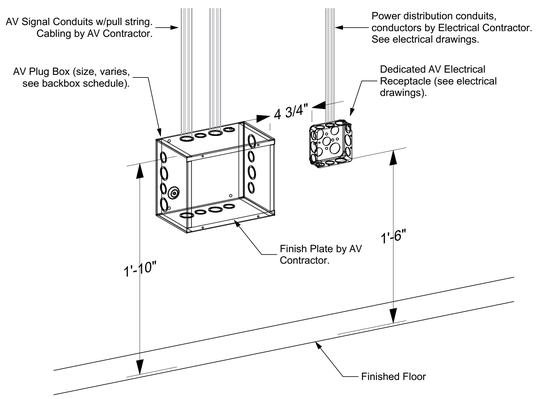
Conduit Label Conventions	
	Box to Stub Up, Stub into accessible ceiling area UON.
	Number of conduits. Applies only in cases where multiple conduits are the same size.
	Box to Box Connection, without home run.

Home Run
Conduit Qty.
| C-
1 | 1"
Conduit Size
MDF
Destination

Destination Notes:

1. Destinations that include "DF" indicate AV racks included in the scope of work.

2. Destinations noted "IT" indicate the closest IT closet or COMM room. In this case, the contractor shall verify the end point with the owner.



Typical AV Plug Box Rough-In Detail
No Scale

RACEWAY & POWER DISTRIBUTION NOTES

GENERAL

1. All work on this sheet is part of Div 16, UON.
2. Architectural details shown on this sheet are for reference only. Refer to the architectural drawings for construction details.
3. The AV contractor shall coordinate all work with the General Contractor and/or Electrical Contractor as applicable.
4. Verify site conditions for all work. Inspect rough-in progress for all AV raceway systems.
5. Note that the project is under construction and most areas are at the final stages of completion.
6. The AV Contractor may be required to mount devices in finished, or near finished ceilings.
7. Coordinate all work with the General Contractor and provide all required mounting systems required.
8. All exposed hardware, mounts, grilles, etc. shall be painted as directed by the architect.

CONDUIT

1. All conduit indicated on risers or plans is 1.0" U.O.N.
2. All conduit shall be ferrous metal construction/EMT see Division 26.
3. All conduit, pull boxes, junction boxes and backboxes shall be installed under Division 26.
4. Conduits shall be electrically isolated from AV equipment racks.
5. Isolate service entrance to racks with nylon or plastic bushings, coordinate with AV contractor.
6. Do not combine AV conduits with power distribution systems.
7. Do not consolidate or combine AV cabling or conduits. Separate raceways are required for each circuit level as shown.
8. Install a single continuous pull string in each conduit.
9. Pull boxes shall be installed after each 270 degree bend. Pull boxes are not indicated on the plans.
10. PVC or plastic conduit is prohibited unless previously authorized by the AV Consultant.
11. Refer to architectural and/or electrical drawings for additional conduit installation requirements.

BACKBOXES

1. All backbox locations shall be closely coordinated with AV prior to installation.
2. Backbox locations as shown on the plans are conceptual. Actual locations shall be closely coordinated with AV (Div 11) prior to installation.
3. Backbox locations as shown on the plans reflect recommended locations, verify all locations prior to rough-in.
4. Contractor shall verify all backbox locations with the Electrical Engineer or AV Consultant prior to installation.
5. Coordinate box locations with architect to avoid conflicts with architectural features.
6. If conflicts exist between conduit systems, contact the Electrical Engineer.
7. If conflicts exist between conduit systems, contact the AV Consultant.
8. NEMA backboxes designated for future use shall be installed with a blank oversized cover plate.
9. The Electrical Contractor shall verify and coordinate all AV backbox locations with the architect or AV Consultant prior to installation.
10. For all AV Box locations, provide a separate power receptacle as noted.
11. Locate the power box directly adjacent to AV backboxes U.O.N. Allow for standard clearance per NEC, see detail, this sheet.
12. Refer to AV systems integration details for more information on backbox installation.
13. Boxes noted as "4S" are standard EO style, 4" Square Box, Welded, Metallic, 3.5" deep, UON.
14. Provide trim rings as noted for standard gang plates.
15. Gang boxes are EO style, Size as noted. Provide welded, metallic type, 3.5" deep, UON.

WIREWAYS

1. All wireways and cable trays shall be supplied and installed under Division 26, if applicable.
2. All wireways shall be covered.
3. Cable trays and wireways shall include separate, isolated paths for signal cabling.
4. Coordinate actual wireway/tray paths with Electrical Engineer and AV Consultant.
5. Do not combine AV cabling circuits with power distribution conduits.
6. Refer to architectural drawings for additional information on tray routing and installation details.
7. Refer to AV equipment rack drawings for details on AV cabling and rack service entrance.

OWNER-FURNISHED SYSTEMS

1. Conduit requirements for systems by others are shown for this work only where specific integration is required.
2. Coordinate installation of conduit systems with those of owner-specified systems or systems by others.
3. Cooridnate and verify presence of Telco, Data, LAN, CATV, SATV service entrances.
3. MDF/IDF locations include space for owner-furnished and future equipment.
4. Provide conduit landings as noted on the drawings.

POWER DISTRIBUTION

1. All power systems should be provided as noted in Division 16/26 and the related electrical system drawings.
2. All receptacles 20A, U.O.N.
3. Do not combine AV conduits with power distribution systems.
4. Mount all power receptacles as shown on the plans, U.O.N.
5. Mounting height for AV receptacles are the same as the adjacent AV box, see backbox legend.
6. Panels that service AV power locations shall be free from dimmable loads, motors and other noise-inducing circuits.
7. AV power noted on these sheets is for reference only. Refer to electrical power drawings for requirements.
8. The schedule includes a field for power circuiting, this indicates the recommended circuit quantity.
9. Locations of the same designator may share a single circuit within the same room or location where permitted by loads.
10. Provide a single circuit where noted as "dedicated".

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CD	May 31, 2017	CONSTRUCTION DOCUMENTS (75%)
CD	July 14, 2017	CONSTRUCTION DOCUMENTS (Approval Set)

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DRAWN BY:	RWA
CHECKED BY:	Checker

Schedules & Notes

E-AV1.0

SCALE: As indicated

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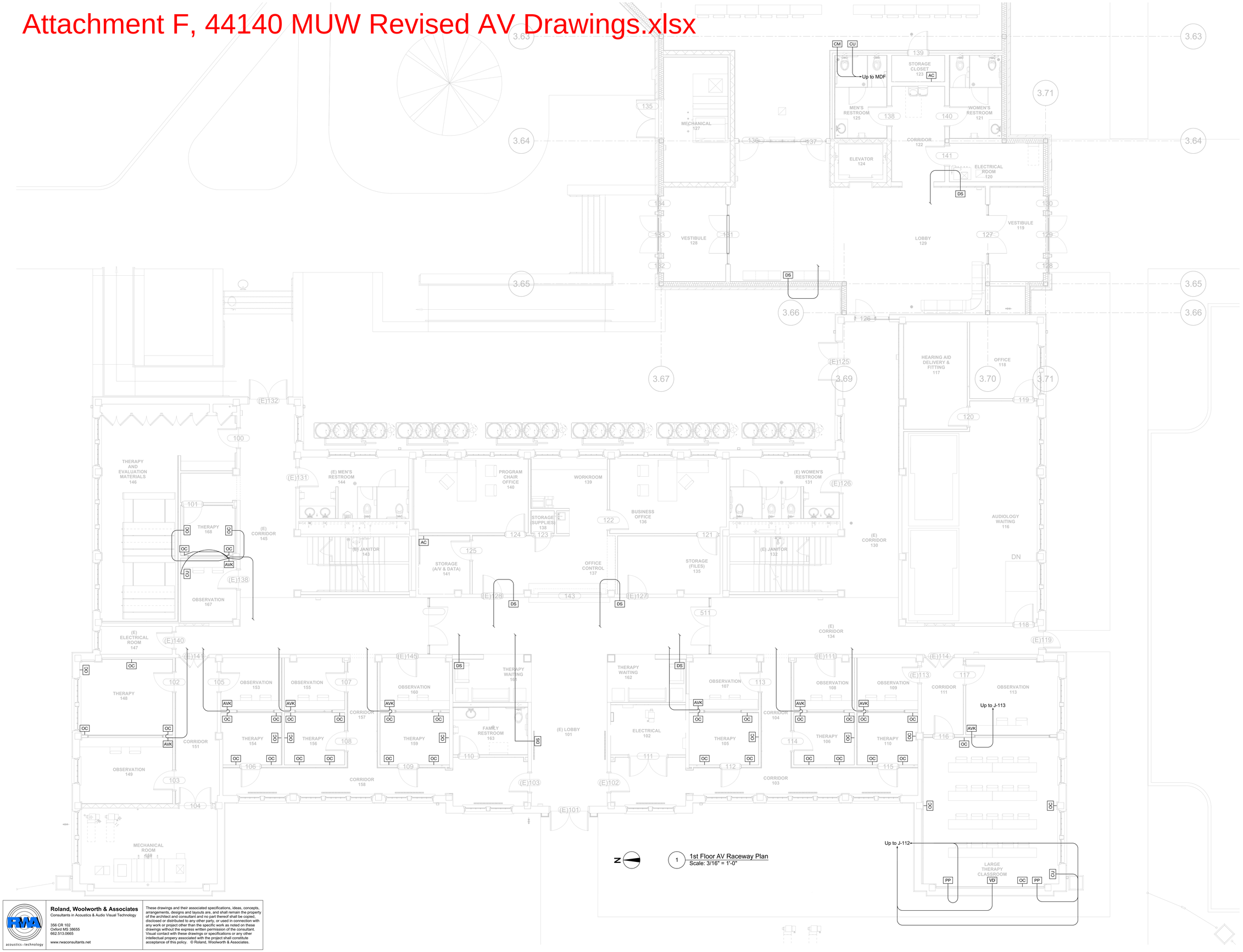

N

1 1st Floor AV Raceway Plan
Scale: 3/16" = 1'-0"

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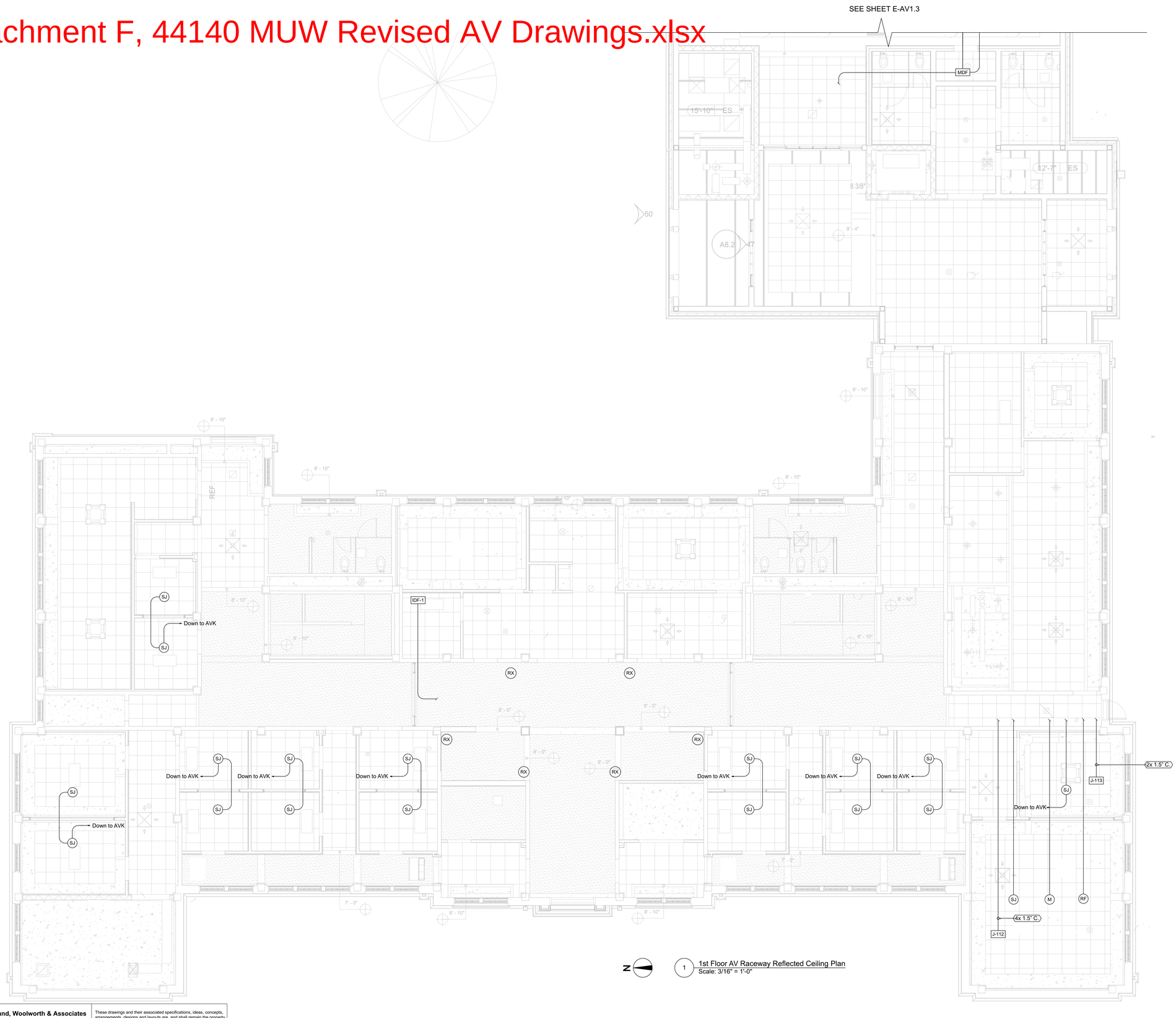
1st Floor AV Raceway Plan

E-AV1.1

SCALE: As indicated

Attachment F, 44140 MUW Revised AV Drawings.xlsx



N

1 1st Floor AV Raceway Reflected Ceiling Plan
Scale: 3/16" = 1'-0"

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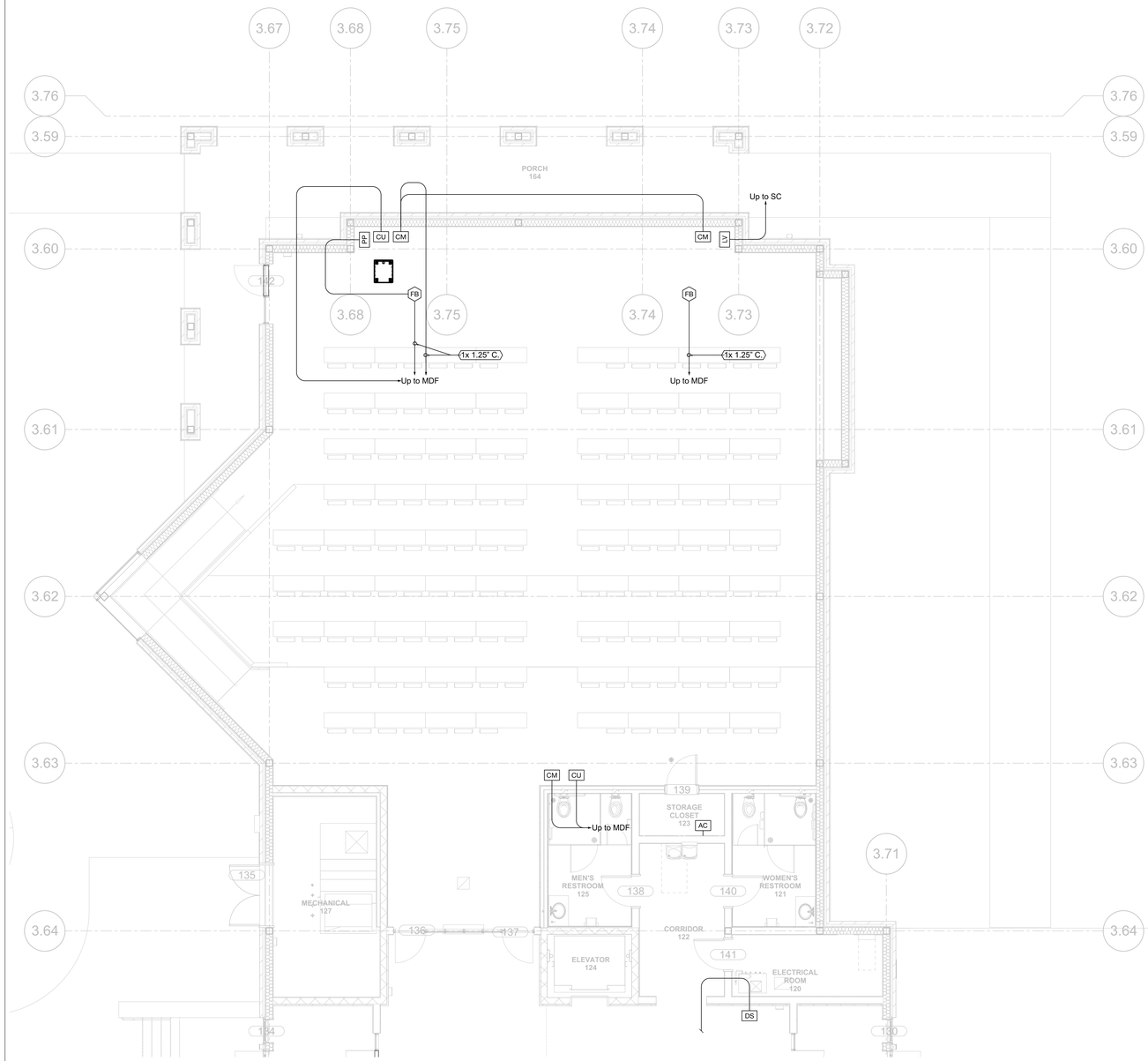
1st Floor AV Raceway RCP

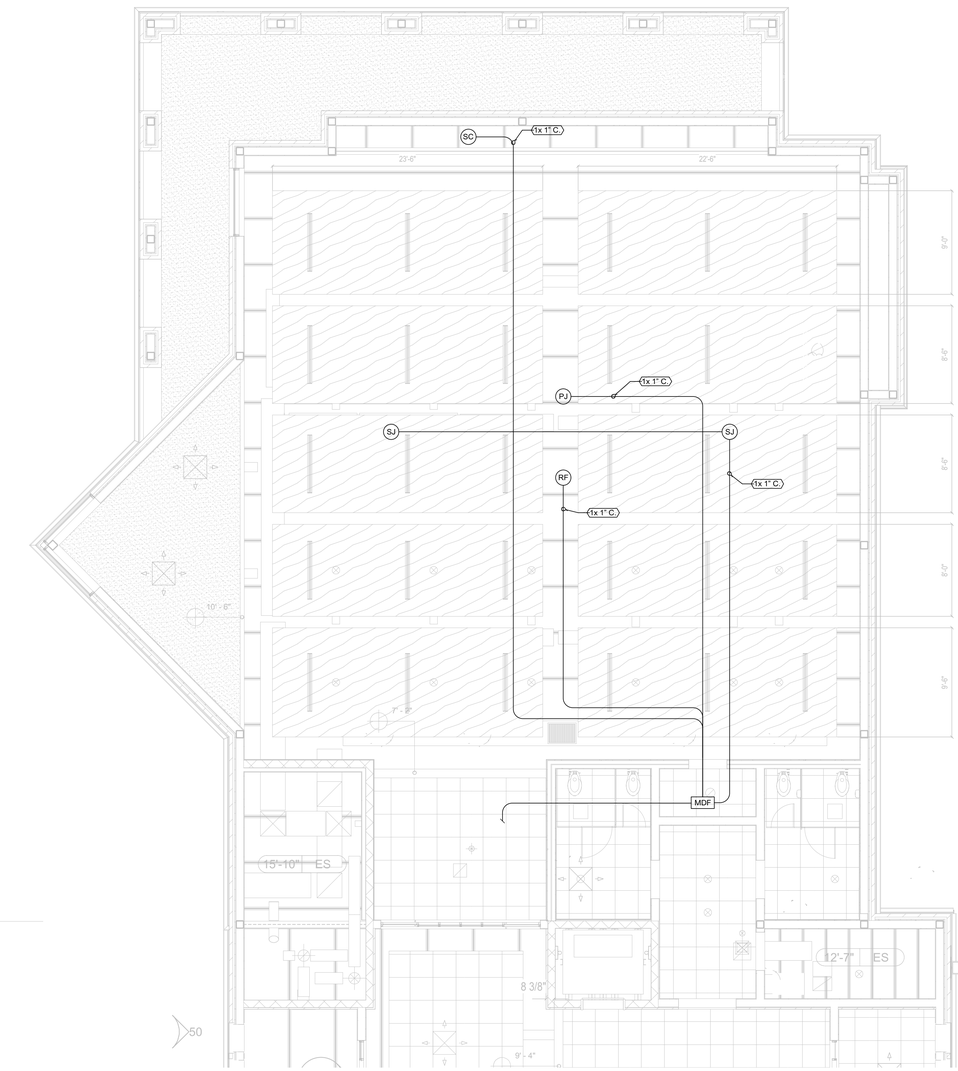
E-AV1.2

SCALE: As indicated

Attachment F, 44140 MUW Revised AV Drawings.xlsx



1 Lecture Hall 126 AV Raceway Plan
Scale: 3/16" = 1'-0"



2 Lecture Hall 126 AV Raceway RCP
Scale: 3/16" = 1'-0"

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Lecture Hall AV Raceway Plans

E-AV1.3

SCALE: As indicated

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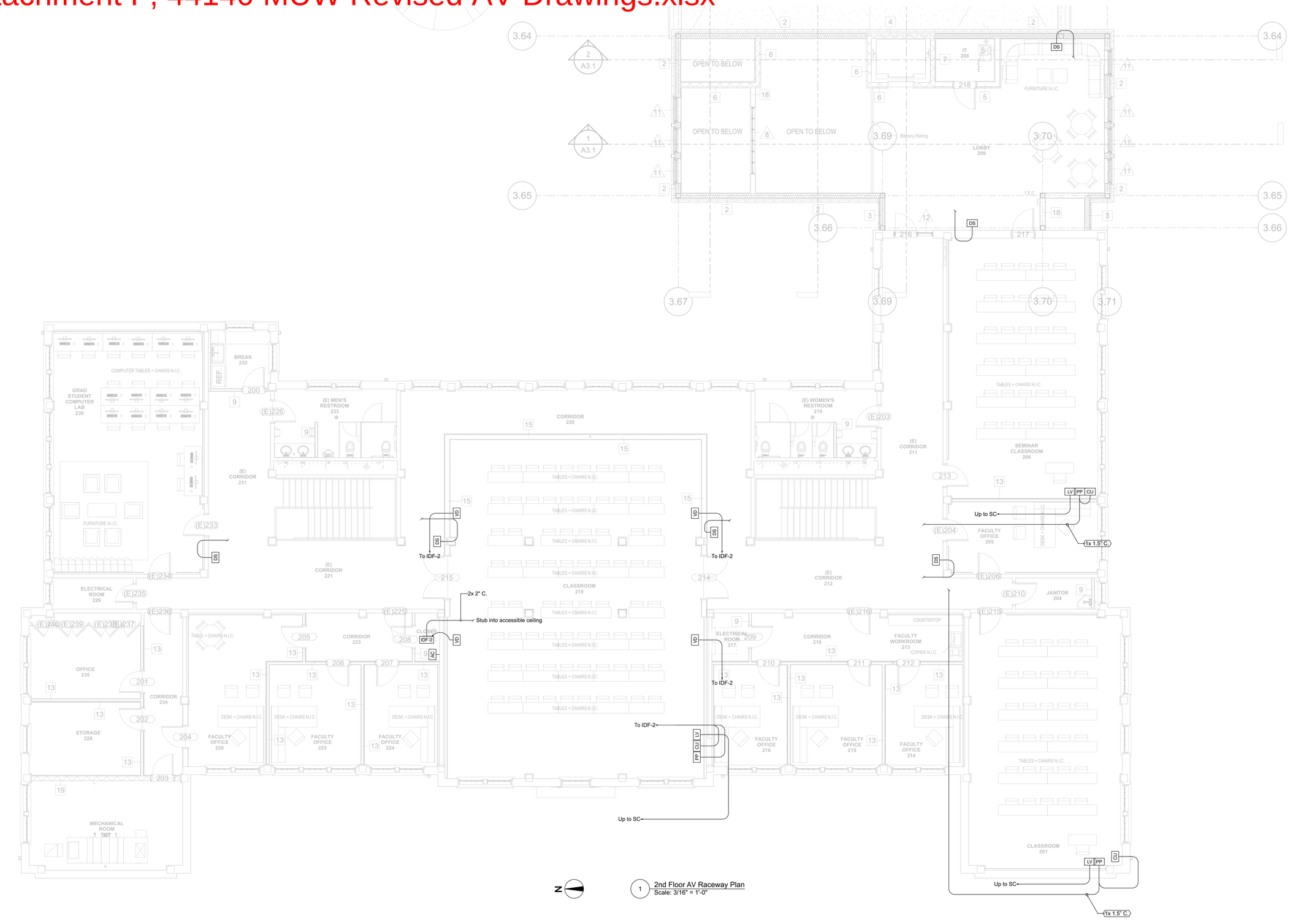

N

1 2nd Floor AV Raceway Plan
Scale: 3/16" = 1'-0"

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2nd Floor AV Raceway Plan

E-AV1.4

SCALE: As indicated

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1 2nd Floor AV Raceway Reflected Ceiling Plan
Scale: 3/16" = 1'-0"

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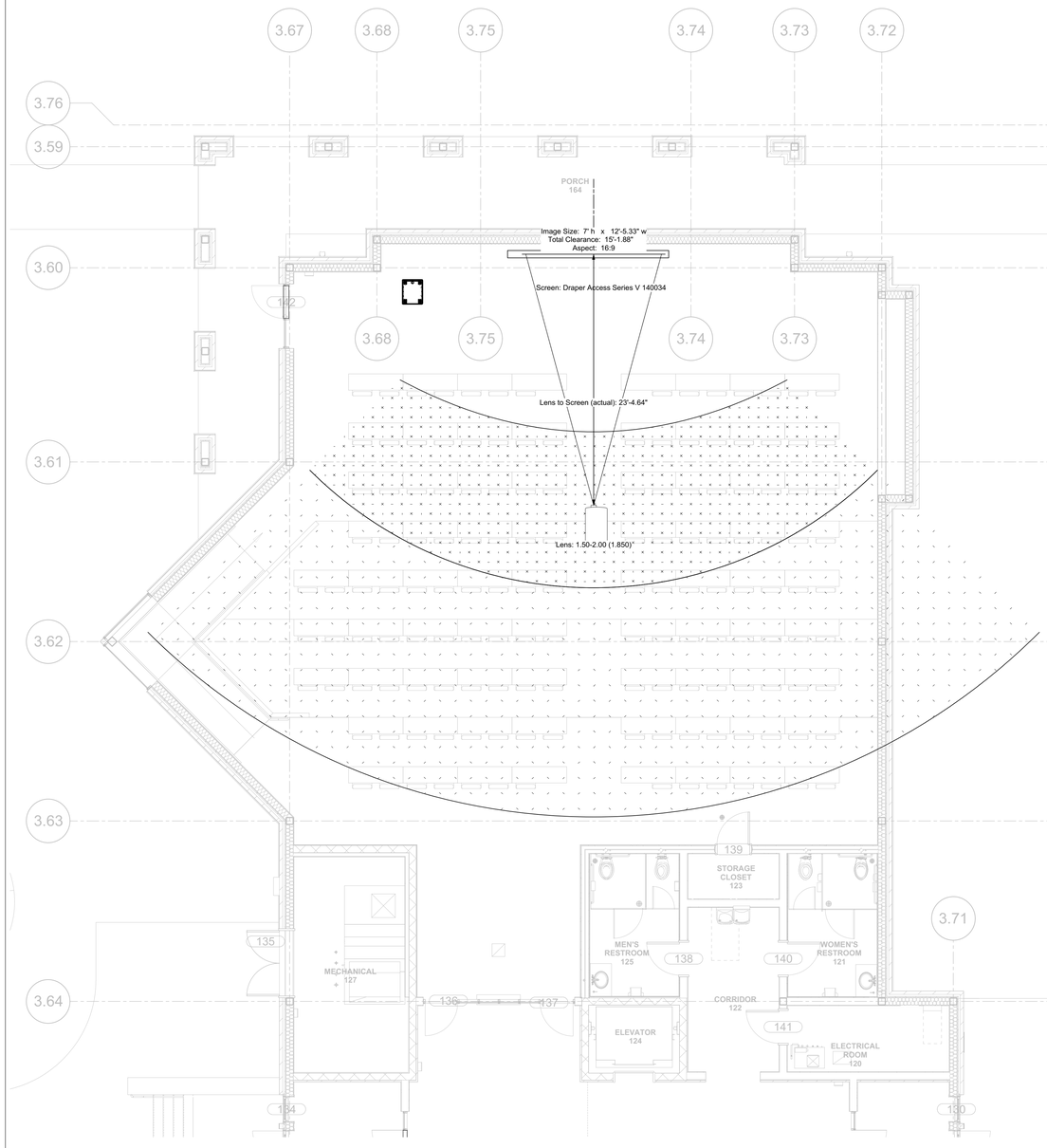
2nd Floor AV Raceway RCP

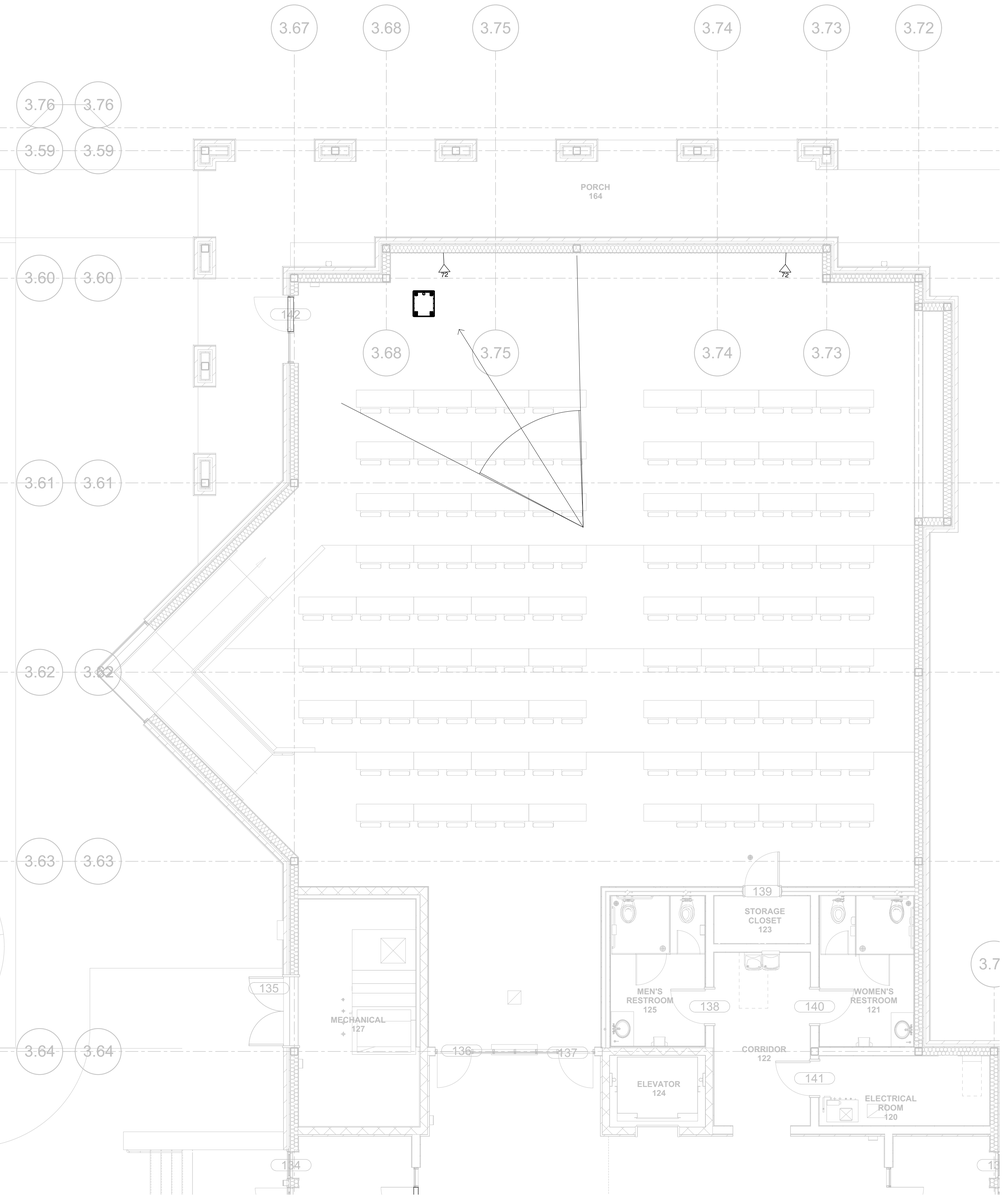
E-AV1.5

SCALE: As indicated

Attachment F, 44140 MUW Revised AV Drawings.xlsx



3 Lecture Hall 126 AV Projection Plan
Scale: 3/16" = 1'-0"



1 Lecture Hall 126 AV Camera Plan
Scale: 3/16" = 1'-0"

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Lecture Hall AV Display Plan

AV2.1

SCALE: As indicated

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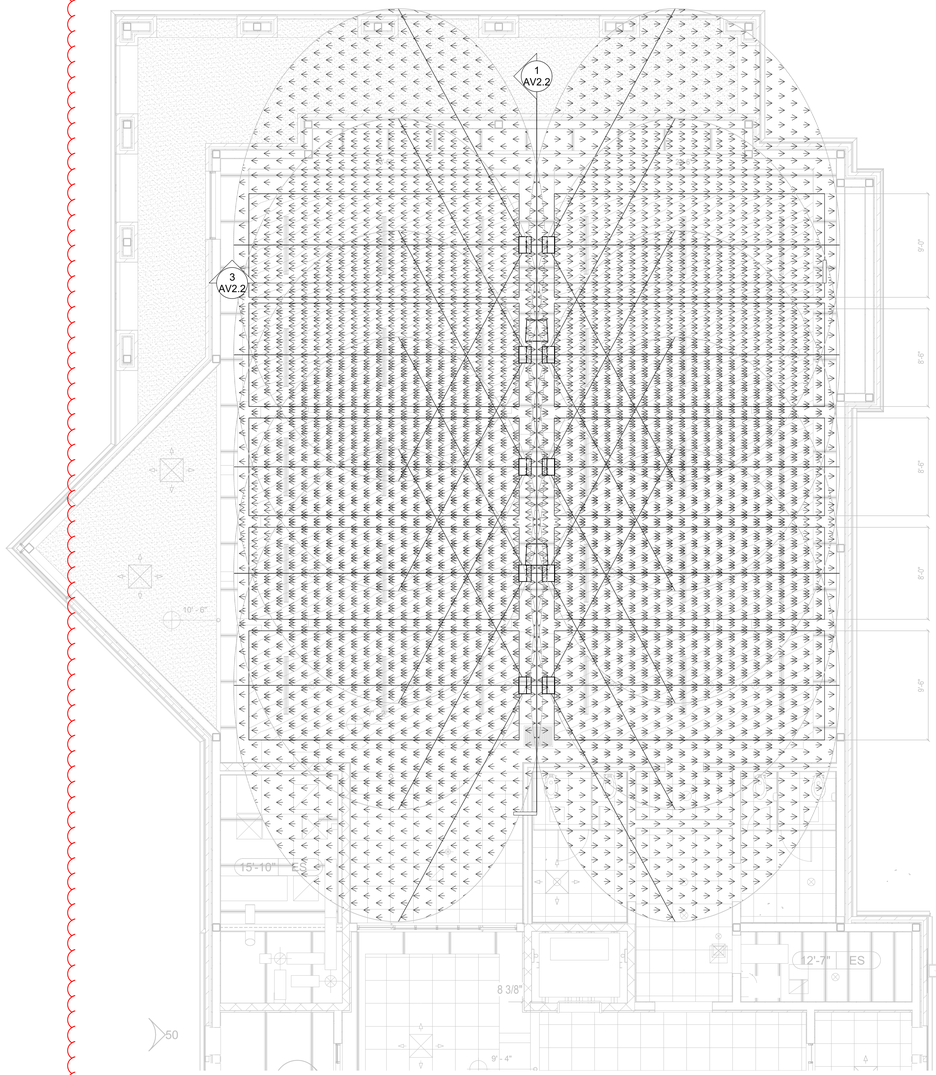
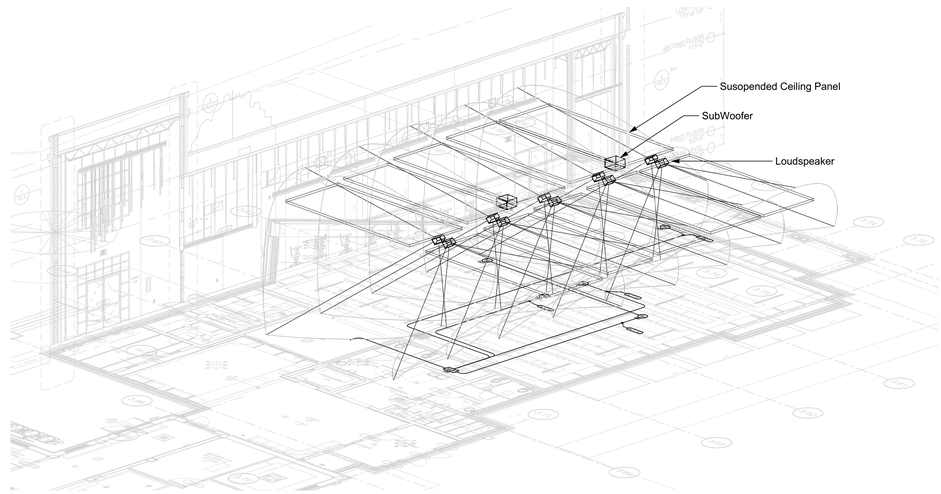
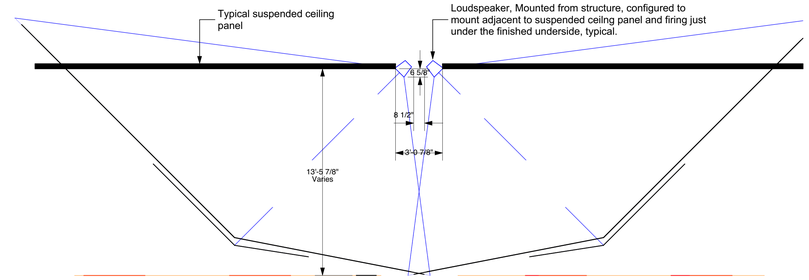


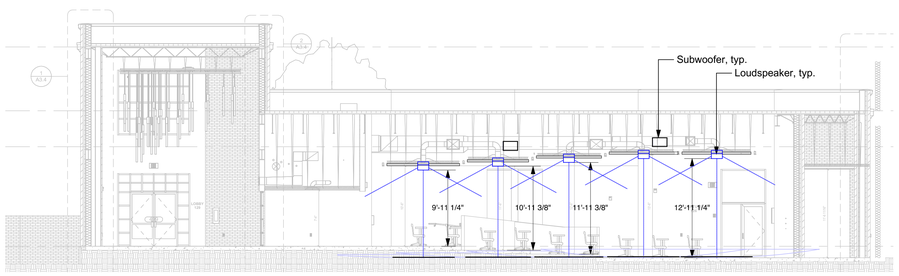
4 Lecture Hall 126 AV Loudspeaker Plan
Scale: 3/16" = 1'-0"



5 Loudspeaker Isometric
Scale: 1/8" = 1'-0"



3 Typical Loudspeaker Section Forward
Scale: 1/4" = 1'-0"



2 Loudspeaker Section
Scale: 1/8" = 1'-0"

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Lecture Hall Speaker Details

AV2.2

SCALE: As indicated

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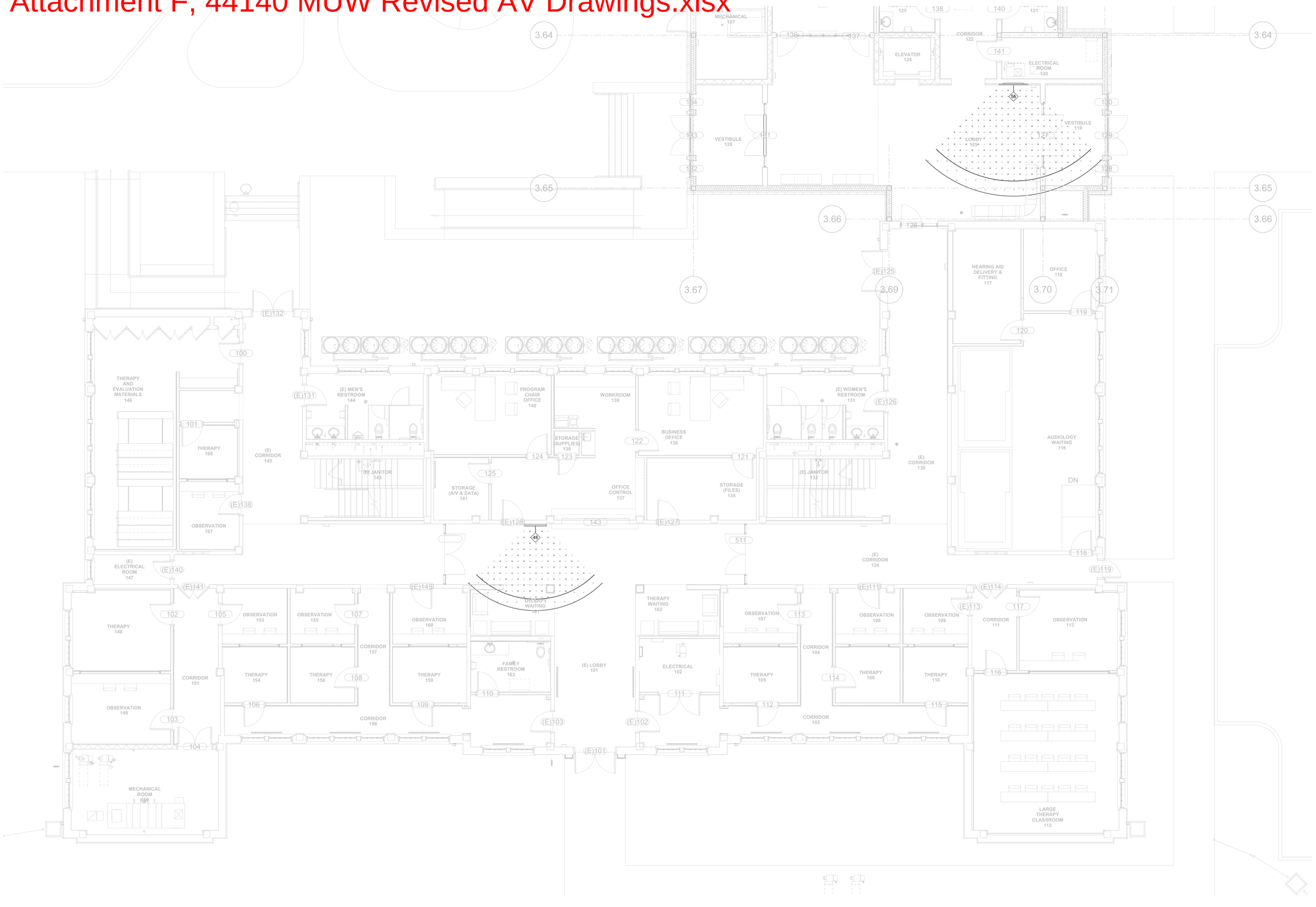

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CD	21 March 2019	AV PROCUREMENT	OWNER REVIEW

PROJECT NO.	2016111
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1st Floor AV Display Plan

AV2.3

SCALE: As indicated

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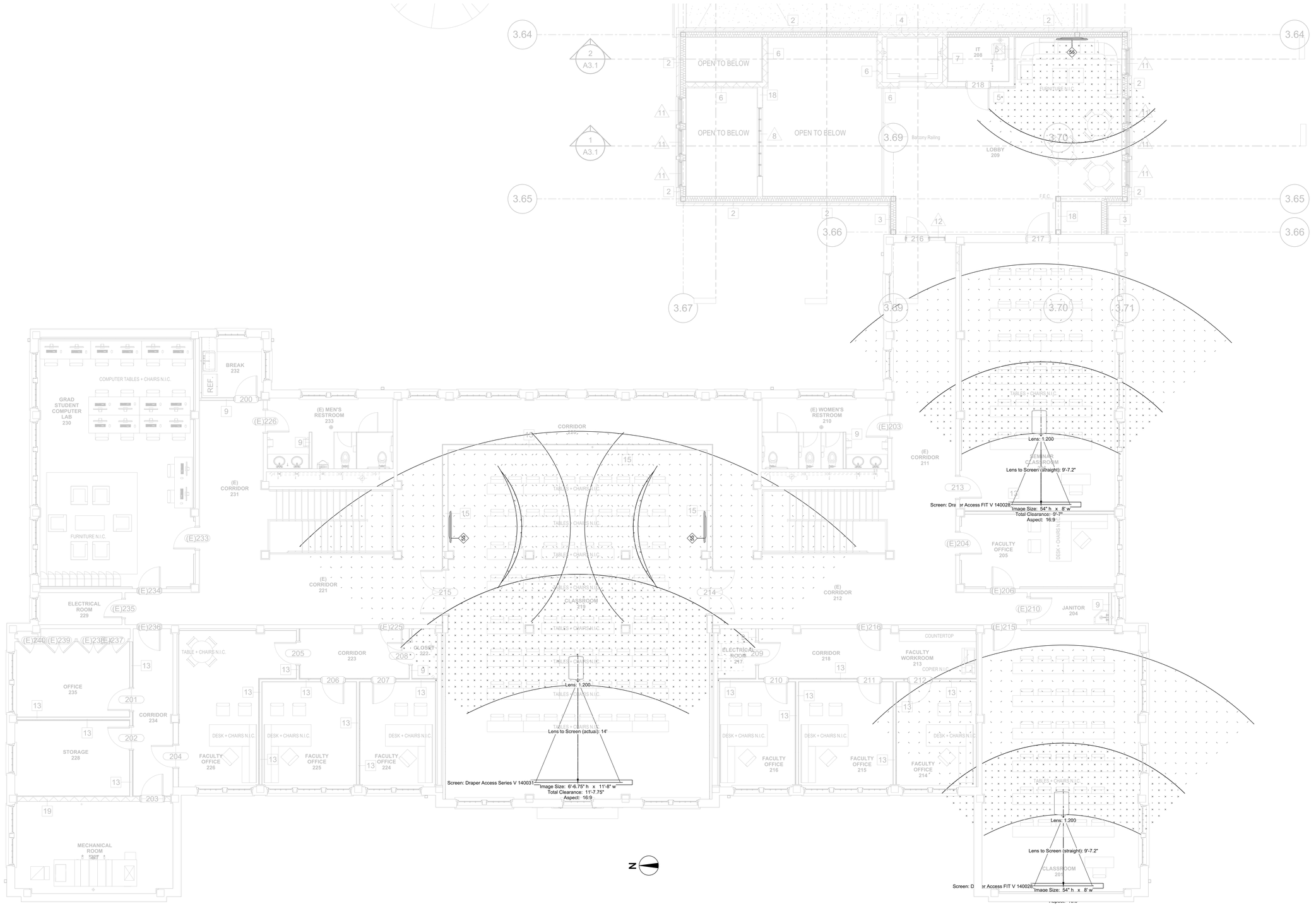

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2nd Floor AV Display Plan

AV2.4

SCALE: As indicated

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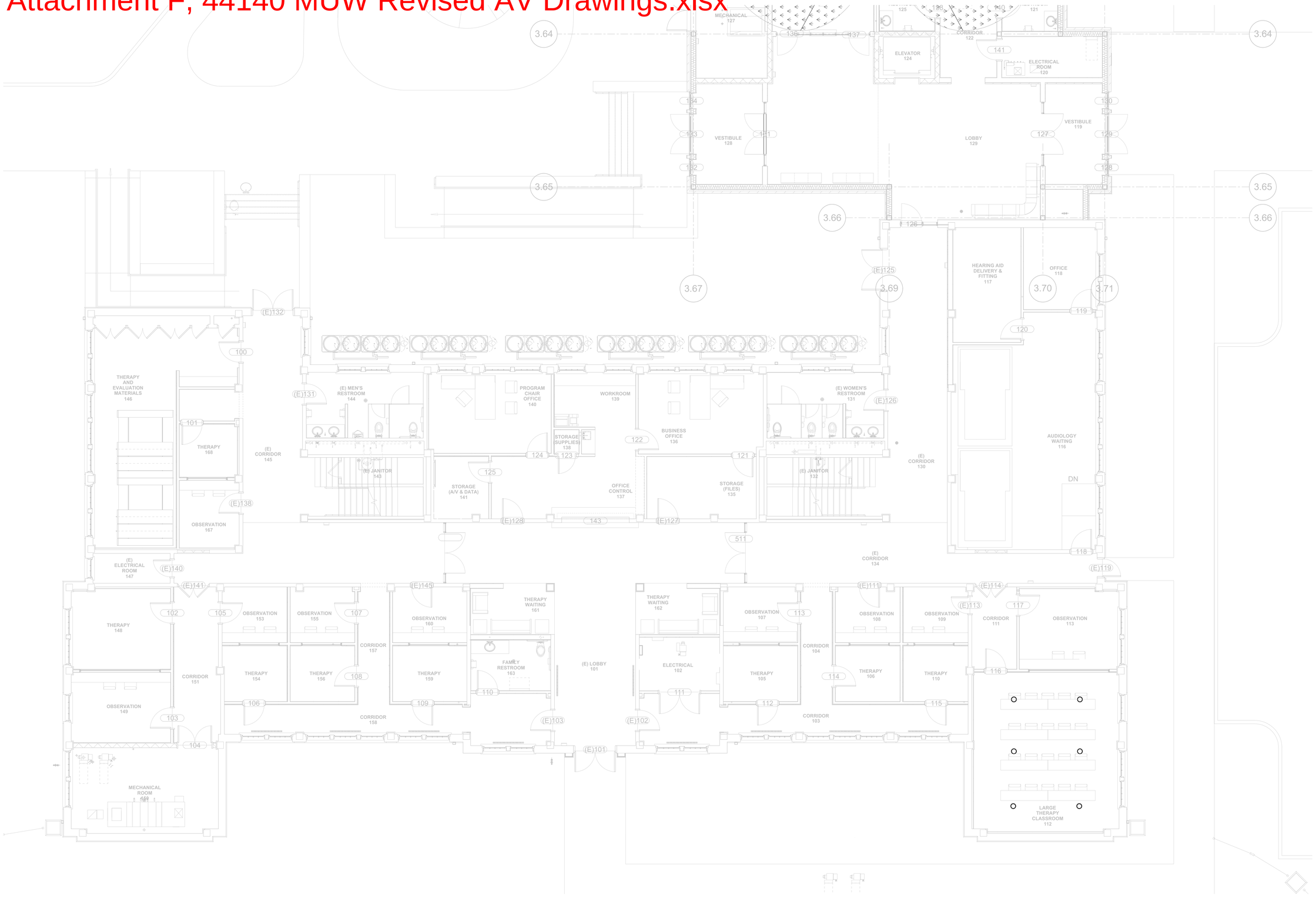

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CD	21 March 2019	AV PROCUREMENT	OWNER REVIEW

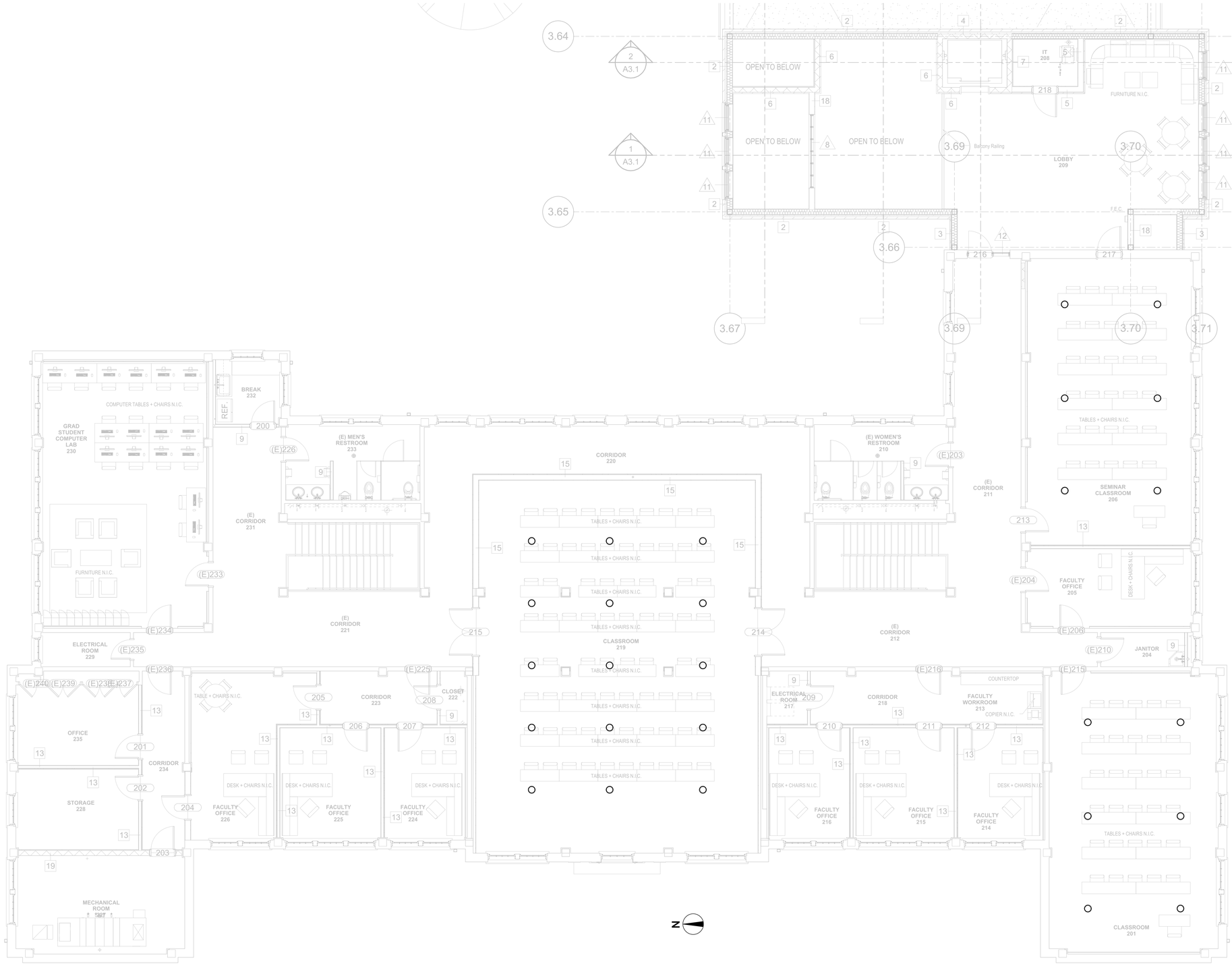
PROJECT NO.	2016111
DRAWN BY:	RWA
CHECKED BY:	Checker

1st Floor AV Loudspeaker Plan

AV2.5

SCALE: As indicated

Attachment F, 44140 MUW Revised AV Drawings.xlsx



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PROJECT NO.	2016111
DRAWN BY:	RWA
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2nd Floor AV Loudspeaker Plan

AV2.6

SCALE: As indicated

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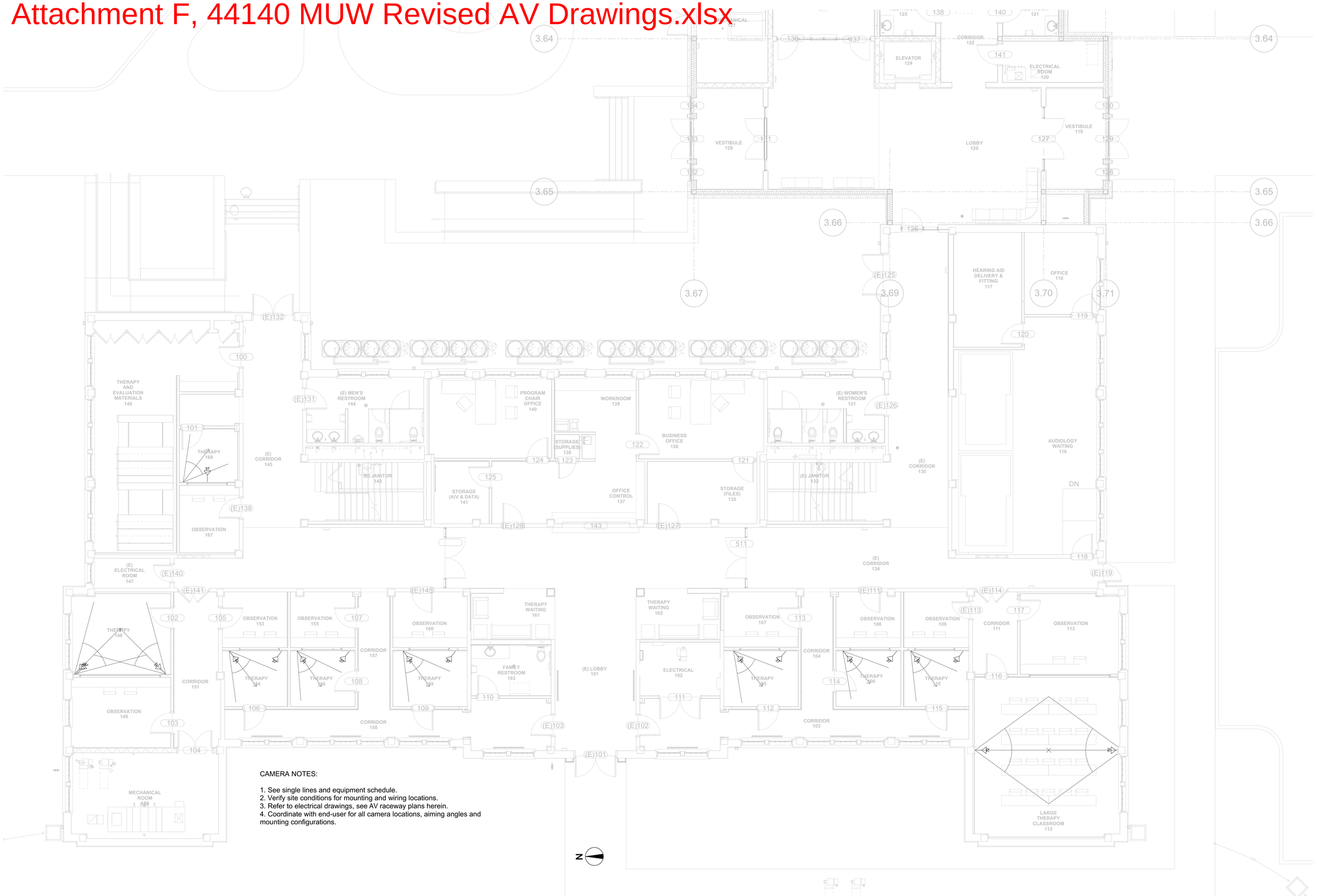

CAMERA NOTES:

1. See single lines and equipment schedule.
2. Verify site conditions for mounting and wiring locations.
3. Refer to electrical drawings, see AV raceway plans herein.
4. Coordinate with end-user for all camera locations, aiming angles and mounting configurations.

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Demonstration School Renovation
Bureau of Building, Grounds and Real Property Management
Columbus, Mississippi

MARK	DATE	DESCRIPTION
SD	June 17, 2016	SCHEMATIC DESIGN
DD	November 30, 2016	DESIGN DEVELOPMENT
CD	May 31, 2017	CONSTRUCTION DOCUMENTS (75%)
CD	July 14, 2017	CONSTRUCTION DOCUMENTS (Approval Set)
CD	21 March 2019	AV PROCUREMENT / OWNER REVIEW

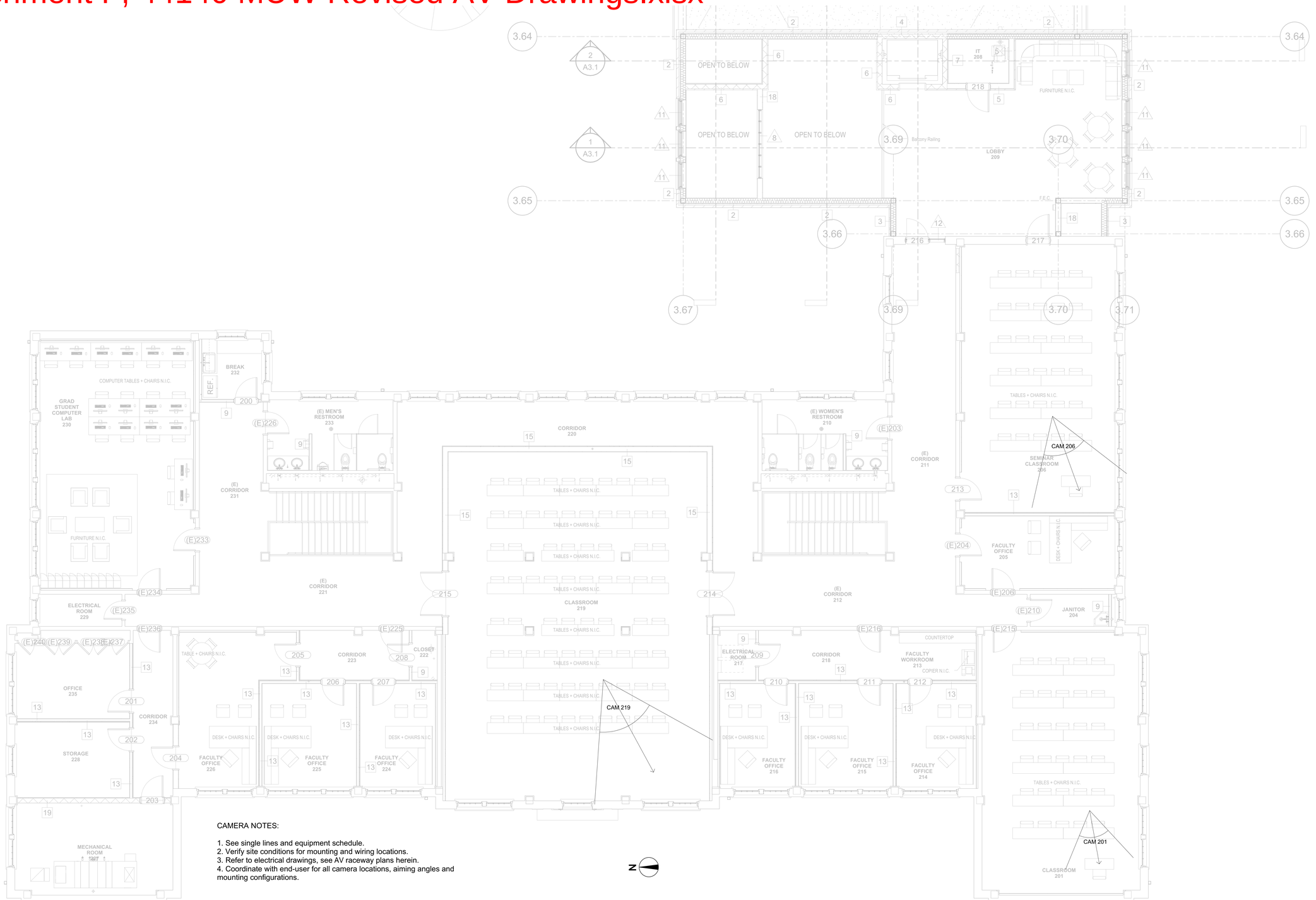
PROJECT NO.	2016111
DRAWN BY:	RWA
CHECKED BY:	Checker

1st Floor AV Camera Plan

AV2.7

SCALE: As indicated

Attachment F, 44140 MUW Revised AV Drawings.xlsx



CAMERA NOTES:

1. See single lines and equipment schedule.
2. Verify site conditions for mounting and wiring locations.
3. Refer to electrical drawings, see AV raceway plans herein.
4. Coordinate with end-user for all camera locations, aiming angles and mounting configurations.

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CHECKED BY:	Checker

2nd Floor AV Camera RCP

AV2.8

SCALE: As indicated

Attachment F, 44140 MUW Revised AV Drawings.xlsx

ABBREVIATIONS

A	Antenna or Antenna Connection Point
AC	Alternating Current (Power Distribution)
AFF	Above Finished Floor
AIC	Audio Input Card
AL	Assited Listening
AM	Amplitude Modulation (AM Radio)
AOC	Audio Output Card
AT	Constant Voltage Attenuator
ATK	Constant Voltage Attenuator Rack Panel
AVD	Audio Video Distribution Unit
AVI	Audio Video Interface
BOB	Breakout Box
CL	Center Line
CN	CobraNet
CP	Control Panel or Control Point
CRT	Cathode Ray Tube Display
CSP	Control System Port
CU	Control Unit, Control Panels
D	Data
DA	Distribution Amplifier
DC	Direct Current (Circuit Designator)
DSP	DSP Signal Processor
DT	Data Terminal
DV	Digital Video
DVD	Digital Video or Versatile Disc Player
EQ	Equalizer
FA	Fire Alarm
FB	Foldback
FBK	Foldback Rack Panel
FC	Format Converter
FM	Frequency Modulation (FM Radio)
FP	Floor Pocket
FPD	Flat Panel Display
FS	Filter Set
GPIO	General Purpose Input/Output
I/O	Input/Output Interface
IDF	Intermediate Distribution Frame
IR	Infrared
IRE	Infrared Emitter
INT	Interface
J	Junction or Junction Box
K	Relay
LINE	Line Level (+4dBm)
LAN	Local Area Network
LCD	Liquid Crystal Display
LIM	Limiter
M	Microphone Level (<-20dBm)
MCS	Master Control Server/Controller
MDF	Master Distribution Frame
ML	Mic or Line Level
MLK	Mic, Line on Rack Panel
MLS	Mic, Line, Speaker
MOD	Modulator
MON	Monitor
NET	Data network
NC	Normally Closed or No Connection
NO	Normally Open
OFE	Owner Furnished Equipment
PA	Power Amplifier
PTZ	Pan/Tilt/Zoom
PC	Computer (Mac, Windows, Linux)
PRJ	Projector
PS	Power Supply
REC	Record or recorder
RF	Radio Frequency
RK	Rack Mounted device
RKP	Rack Panel
RX	Receiver
S	Loudspeaker, Speaker
SUM	Mixer
TP	Touch Panel
TX	Transmitter
UON	Unless Otherwise Noted
V	Volume
VC	Volume Control
VD	Visual or Video Display
X	Switch
XO	Crossover
Z	Impedence

Wires& Cables Reference

Type Designator	Function	Basis of Design	Notes
ML	Audio, Low Level	West Penn 452	OK for racks, conduit only, do not expose.
S16	Audio, High Level	West Penn 225	70V, direct-coupled to 100W at 4 Ohms, less than 200'
S14	Audio, High Level	West Penn 226	Direct-coupled to 750W, less than 100'
S12	Audio, High Level	West Penn 227	Direct-coupled to 1000W, less than 100'
TH	Audio, High Level	THHN (10-12AWG)	>1000W of audio power, size as recommended by manufacturer
COM	RS232	West Penn 452	OK for racks, conduit only, do not expose.
GP	GPIO	As Required	As recommended by manufacturer.
IP	Data, IP Type	West Penn 4246F	Ethernet and similar networks, <50 meters.
IP	Data, IP Type	West Penn 4246AF	Ethernet and similar networks, >50, <100 meters.
DTP	UTP, Proprietary	Extron DTP24	AV Transport, as recommended by Extron
FX	Optical	NA	As recommended by the manufacturer of connected endpoints.
AES	AES3 (EBU)	Belden 1696A	All uses within the limits of the AES specification.
AES50	AES50	West Penn 4246AF	All uses within the limits of the AES specification.
SDI	HD-SDI	Belden 1855A	In racks, risers, conduit installation, 250' max.
SDI	HD-SDI	Belden 1505A	In racks, risers, conduit installation, 300' max.
SDI	HD-SDI	Belden 1694A	Conduit installation, 400' max.
SDI	HD-SDI	Belden 1695A	Plenum or exposed installation, 300' max.
RGB	RGB/VGA	West Penn 3CRGB	OK for racks, conduit only, do not expose
NTSC	NTSC Video	West Penn 819	OK for racks, conduit only, do not expose
PCOM	Production Com	West Penn 452	OK for racks, conduit only, do not expose, use similar for 2-channel systems.
DMX	DMX	Belden 9842	OK for racks, conduit only, do not expose
RF	RF	RG6	Per manufacturer.

AV CABLING & TERMINATION NOTES

GENERAL

1. All plenum wire shall meet applicable local codes.
2. Cable callouts shown on the single line drawings are for reference to the Basis of Design, UON.
3. All wire and cable shall be provided in accordance with the recommendations of the manufacturer for the connected equipment, UON.
4. All exposed wire and cable shall be plenum rated per NEC and NFPA.
5. Verify all cable types during submittal with the AV Consultant.
6. Verify cable lengths with manufacturer of connected equipment for all cable types.
7. Wire and cable for any device shall be supplied in accordance with the requirements of the device manufacturer
8. Wire and cable shall be installed in compliance with the National Electrical Code.
10. Wire, cable and signal conductors shall be new and unused.
11. All low level field cabling shall enter racks at punch points or directly soldered to equipment connectors.
12. Buss punch block ground points to single rack ground, see jack field detail.
13. Mechanically isolate all panel connectors from raceway system and finish plate.
14. Mechanically isolate audio connector chassis from rack panel.
15. Mechanically isolate service entrance conduits from equipment rack.
16. Use #10AWG solid wire min. for all ground jumpers.
17. Isolate equipment rack from conduit, raceway and power distribution system.
18. Maintain proper twist ratio for all pairs (Category 6 patching and interconnect).
19. Terminate all pins and conductors (Category 6 patching and interconnect).
20. There shall be no ground loops, regardless of equipment configuration.
21. Use 3-wire grounded devices when possible.
22. Use only balanced audio terminations throughout system, U.O.N. Use only ratchet type crimp tools.
23. All wire and cable shall have a unique numering designator at each end of the physical media.
24. Contractor shall supply the cable in accordance with the recommendations of the connected equipment manufacturer.
25. Install and terminate cabling per AES, ANSI, IEC or BICSI standards, UON.
26. Contractor shall supply the optimum cable for the application.
27. All cabling shall be subject to the circuit type.
28. All cabling shall be subject to environmental conditions.
29. All cabling shall be provided and installed for bandwidth requirements.
30. Wiring designators are shown to indicate the requirements and to denote circuiting.
31. Contractor shall provide wire numbers on all documentation, and is free to use their own numbering scheme.
32. Contractor shall document all wire numbers on their shop drawings and as-built drawings.
33. Provide cable schedules for all cables UON. See specifications for additional requirements.
34. Cable types are specified based on terminated end points. See single lines, provide as required to provide the system as shown. Provide cables as recommended by the manufacturer of the terminated equipment, UON.

AUDIO CABLING

1. All low level field cabling shall enter rack at punch points or directly soldered to terminating connector at equipment or terminal panel.
2. Buss punch block ground points to single rack ground, see jack field detail.
3. If power supply includes ground to AC connector, do not terminate signal ground.
4. Mechanically isolate all panel connectors from raceway system and finish plate.
5. Mechanically isolate connector chassis from rack panel. Pin 1 shall not be at the same potential as connector chassis or panel.
6. Mechanically isolate service entrance conduits from equipment rack.
7. Use #10AWG solid wire min. for all ground jumpers.
8. There shall be no ground loops, regardless of equipment configuration.
9. Use 3-wire grounded devices when possible.
10. Use only balanced audio terminations throughout system, U.O.N.

DATA CABLING

1. Use only ratchet type crimp tools.
2. The presence of a non-ratchet crimp tool on the job site shall render all connections suspect.
2. Use only standard wiring and active devices, do not use crossover cables unless specifically noted on the drawings.
3. Use pre-made (manufactured) cables whenever possible.
4. Certify all Ethernet cable runs for Gigabit operation, min., per specifications.
5. Certify all proprietary cable runs per the manufacturer's recommendation.
6. All cabling transporting data shall be provided and installed in compliance with the connected endpoints.
7. For this section, "connected endpoints" indicates manufacturer requirements of devices connected to data cabling plants.

WIRE NUMBERS

1. All wire and cable shall have a unique numering designator at each end of the physical media.
2. Contractor shall supply the cable in accordance with the recommendations of the connected equipment manufacturer, per AV best practice or AES, ANSI, IEC or BICSI standards.
3. Contractor shall supply the optimum cable for the application, considering the circuit type, environmental conditions, bandwidth requirements, termination type, cable construction and performance requirements.
4. Wiring designators are shown to indicate the requirements and to denote circuiting. Contractor is free to use their own numbering scheme.
5. Contractor shall document all wire numbers on their shop drawings and as-built drawings. Provide cable schedules for all cables UON.
6. See specifications for additional requirements.

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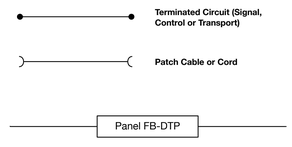
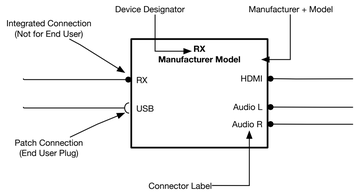
Signal Flow & Terminations Legend



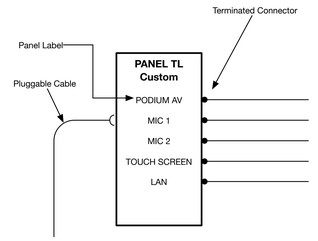
Cable Tag, continuous circuit, represented by a broken line across drawing details. Applies to single and multiple circuits of the same type.

Electronics Device Legend



Note that connections for field devices are shown "in context". Connections and terminations for some devices may not be shown. Verify correct terminations with the manufacturer in all cases.

Custom Panel Termination Legend

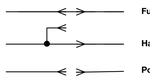


Panel Legend applies to field panels, rack panels and custom millwork panels.

Provide connector types typical for circuit (see wire & cable schedule) and/ or the terminated end point. See panel elevations, submit details in shop drawings.

Signal flow/direction is not literal, indicates a panel at source location or destination location, regardless of signal types.

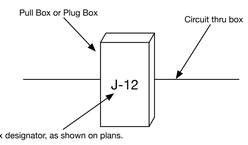
Jack Fields (Patchbays)



Jack Fields are shown on the single line as shown. Refer to connected circuits for signal type. Provide jack fields equal to the following products:

Audio, Low Level: Bittree 489-A SeriesA
Audio, High Level: Custom by Contractor, see detail
Video, NTSC, HD-SDI: Bittree 12G+ Series
Data, Copper: Rack Type, Punch, CAT6 certified (no keystones).
Data, Optical: Coupling Type, LC or ST, Rack Type.

Physical J-Box, Pull Box or Plug Box Legend



Indicates physical pull box or plug as shown on AV Raceway plans or related electrical drawings.

Box provided and installed by others, UON.

Coordinate with Electrical Contractor in all cases, verify box type and mounting conditions.

Network Switch Legend

Network Field Termination (permanent, non-user accessible.

User accessible network connection, typically refers to one end of a connected cable for end-user use.

Switches indicated as OFE (owner furnished) require careful coordination. Contact and coordinate with the owner's IT Staff and coordinate physical switches, patching, termination, ports, DHCP configuration, IP addresses, etc. as required to implement the systems as shown.

Network switches chassis/frame units may not shown on the single line drawings. Indication of a terminated LAN port indicates a switch is required at each physical location (MDF, FOH, IDF, etc.)

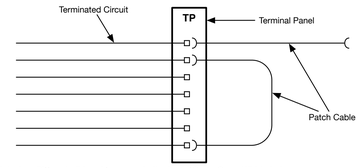
Provide and configure switches as recommended by the manufacturer of the connected systems. Include switch configuration in submittals. All switches shall be gigabit type (10/100/1000) and shall support AES67, and shall be compliant with the requirements of the connected equipment's manufacturer's recommendations.

Provide port quantity as shown on the single lines for terminated ports.

See specifications.

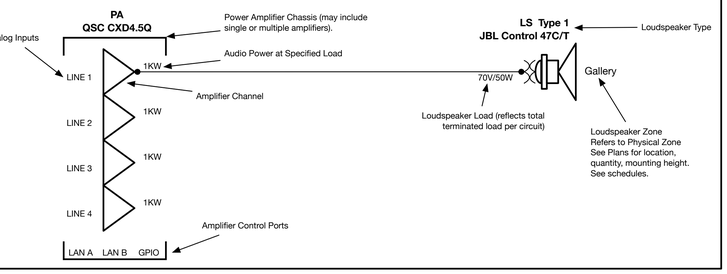
Network/Segment Types:
A: AES67, Q-Lan, Dante
V: Encoded Video
C: AV Control
L: Site LAN (by others)
U: Other Proprietary

Terminal Panel/Feed-Through Panel Legend



Basis of design: Bittree bulkhead type, or similar by ADC, ProCo or Whirlwind.
Use one panel per circuit type, UON, see single lines. Type indicated by terminated circuits.

Loudspeaker Circuit Legend



AV INTEGRATION NOTES

LOUDSPEAKERS

1. Provide cabling as reflected by single line drawings.
2. Pull cable through pull box, do not splice or use panel connectors.
3. Amplifier circuit shall terminate directly to transducer UON.
4. Final adjustment of loudspeaker aiming and mouting configuration will be determined on-site during commissioning.
5. Obtain aiming coordinates from consultant, UON.
6. Provide rigging hardware that supports adjustment of all loudspeakers for 360 degrees of adjustment.
7. Provide lift, scaffolding and rigging kits required for loudspeaker mounting and adjustment.
8. Ensure that all equipment is adjustable as to not impede loudspeaker dispersion during commissioning.
9. Refer to single line drawings for component callouts, circuiting and related signal processing requirements.
10. Attached to structure only, coordinate and/or obtain approval from Structural Engineer, see specifications.
11. Equipment shall be held firmly in place with proper mounting hardware, suspension or rigging materials.
12. Equipment attached to any building structure, sub-structure or other load-bearing member shall be self-supporting.
13. All mounting or rigging hardware shall be installed with a safety factor of at least three times the required load.
14. Provide 100% redundancy for all rigging attachment points, verify with Structural Engineer.
15. Provide bumpers, array brackets, dead-hang hardware, fasteners, safety equipment as required by the loudspeaker manufacturer.
14. Use manufacturer's rigging hardware if available.
15. The AV Contractor shall verify, coordinate and obtain color preferences for all loudspeaker enclosures, related rigging, mounting hardware and accessories with the architect and/or owner.

PROJECTION

1. Coordinate installation of projection screen with General Contractor.
2. Provide rough-in backbox for screen motor UON.
3. Provide projection geometry as shown on the drawings, verify all parameters with the consultant.
4. Extend low voltage serial or GPIO control circuits to AV Control System, coordinate with consultant.
5. Provide lens as required by the projection geometry shown. Verify with projector manufacturer.
6. Provide lens as required for the projection geometry shown on the plans and sections.
7. Provide low-voltage controls for all projections screens, locate as directed by owner and/or consultant.

SURFACE-MOUNTED DISPLAYS

1. Verify mounting heights for all displays with end-user, coordinate with consultant.
2. Ensure that raceway and power distribution components are properly roughed-in to support the display position.
3. Verify structural support for mounting systems with the General Contractor.
4. Coordinate penetration of finished walls with General Contractor as necessary.
5. Ensure that electronics components are mounted to facilitate proper cooling.
6. Ensure that supplemental electronics, cabling and mounting systems are hidden from view.
7. Verify that display positions are compliant with egress requirements, verify with architect.

PANEL & PLATE NOTES

1. All exterior panel mounts shall be rivets or tamper proof screws UON, submit detail.
2. All panels shall be brushed, black anodized 1/8" aluminum UON.
3. All text shall be at least 1/8" high bold characters. Engrave and fill in white ink.
4. Bevel all panel edges by 1/16".
5. Connector borders shall be engraved 1/8" thick, filled in white ink.
6. Connector compliment is typical, see single line drawings and specifations for details, submit for approval.
7. Each character shall have a unique number corresponding to the conductor number, see single lines.
8. Panel elevations are conceptual, refer to single line drawings for connection requirements.
9. Submit shop drawings for all panels.
10. Coordinate field panel installation with electrical contractor.
11. Isolate panel metal from backboxes where necessary.
12. Verify backboxes with electrical drawings and/or AV Raceway drawings for all panel locations.
13. Verify field conditions for all panel locations, adjust panel sizes or finish configuration as required.
14. Verify that all conduit is isolated from backbox metal.
15. Do not couple signal ground to raceway system UON.
16. Where panels include 120VAC, coordinate with electrical contractor.
17. Do not install high voltage circuits, coordinate with electrical contractor.
18. All BNC connectors shall be as shown, isolated from chassis metal or Neutrik D Series UON.
19. All connectors shall be as shown UON.
20. All high-level audio connectors shall be Neutrik NL Type UON.
21. All RCA type connectors shall be Neutrik NF type.
22. All UTP data connectors shall be equal to CAT6 compliant, Neutrik etherCON Series UON.
23. All XLR type connectors shall be Neutrik DLX Series, solder cup type.
24. Match connector finish with panel color, verify all colors UON.
25. Provide optical connectors as shown, equal to Neutrik opticalCON Serieis.
26. Verify circuiting requirements for all optical connectors with connected manufacturer's recommendation.

SINGLE LINE NOTES

SIGNAL FLOW

1. Single line drawings, reconciled with the plans, constitute the design.
2. Wire numbers are shown for reference only.
3. All cables shall be numbered. Contractor is free to use their own cable numbering scheme.
4. Single line drawings may not include minor supplemental items, accessories and cabling.
5. Provide all required items to support the systems as drawn as recommended by the manufacturer or per AV best practice.
6. Configure LAN switches to support the ports shown on the single lines and applicable port schedules.
7. Refer to legends, abbreviations and callouts for specific direction.
8. See specifications for more information.

CONTROLS

1. Configure control server to accommodate all control ports shown, see control port schedule.
2. Provide applicable wireless gateway or other interfaces as required for wireless controls.
3. Provide local power for all devices under control, control clients and dedicated control panels/touch panels.
4. Where possible, power control panels and devices interface and transport units with Power Over Ethernet (POE).
5. Provide additional power supply to support POE or power to end-points where required.
6. All control cabling shall be provided as recommended by the specified or approved control system manufacturer.
7. Provide UI clients for all systems, duplicate primary control interface for each client.
8. UI clients shall be provided for Mac OS, Windows, Linux, iOS and Android devices. Verify and coordinate with owner.

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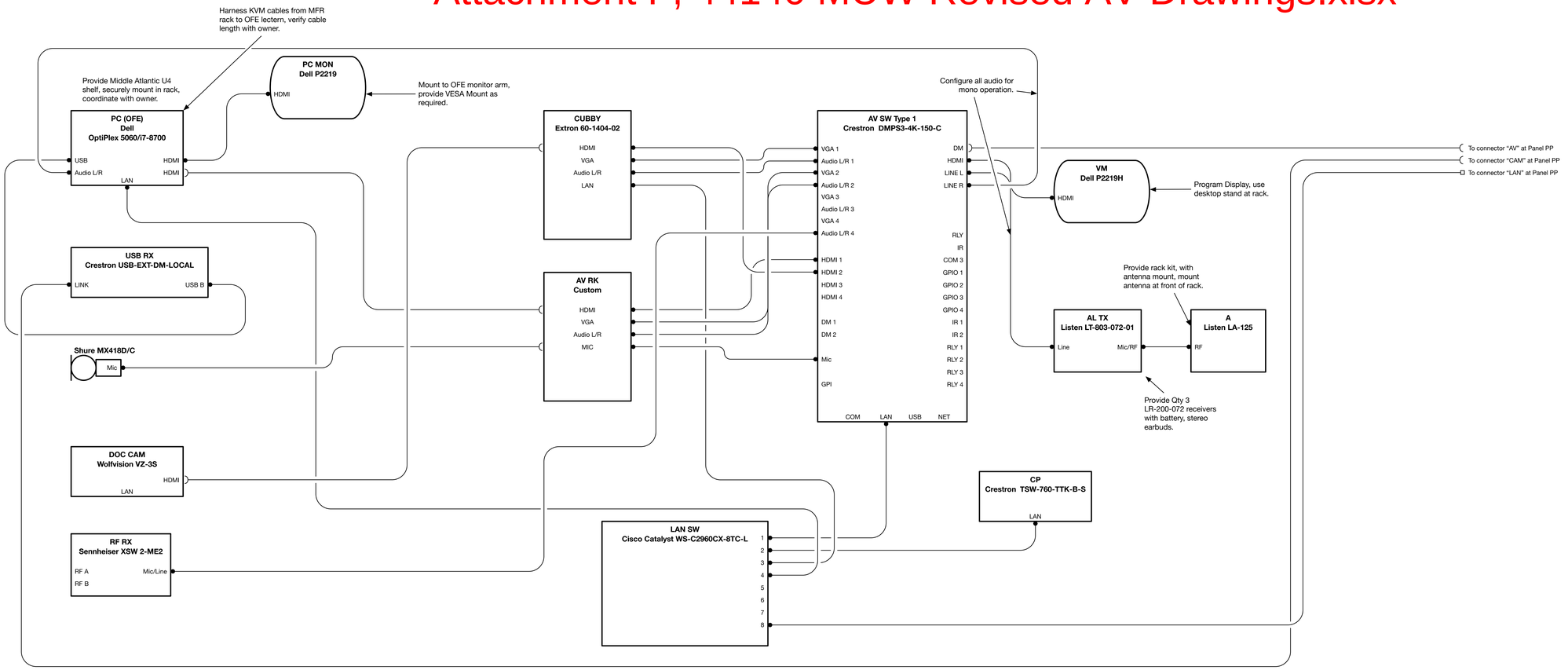
DRAWN BY:	RWA
CHECKED BY:	Checker

AV Systems Legends

AV3.0

SCALE: As indicated

Attachment F, 44140 MUW Revised AV Drawings.xlsx



1 Typical Presentation Rack Single Line (Typ. of 4)

Notes:

Presentation Rack is typical of 4 locations: Lecture 126, Classroom 219, Classroom 201, Classroom 206, see related single lines.
Presentation Rack supports an owner-furnished lectern.
Coordinate with furniture vendor and owner for installation of microphone and cabling.
Coordinate with IT department for integration with site LAN.

Connection Point (PP)

At rear-side wall, Stage Right Side only (audience left).

There would be an umbilical cable assembly from the AV Rack to this position under typical use.

AV Rack, Furniture Type, portable.
27 3/8" D X 42" H
Grained Ebony Ash

Connects to FB or PP panels, see raceway plans.


MFR Series
mobile furniture rack

economical solution for mobile presentation systems

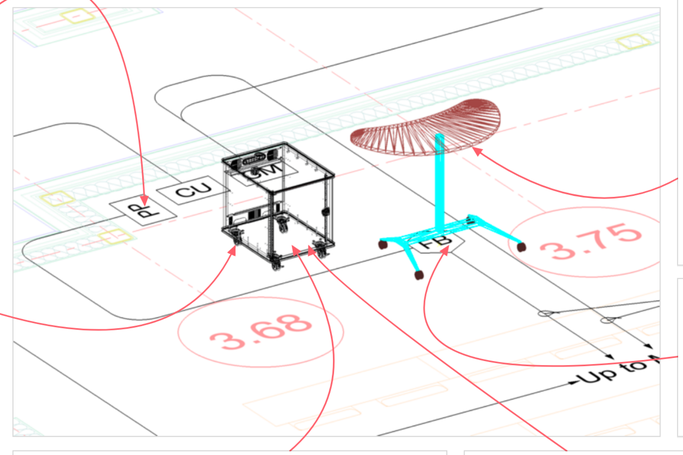
features:

specifications:

options:

what great systems are built on.

96_01177_MFR.pdf
Download - 473 KB



Owner-specified Presentation Table

(Cruz Cart 3CZ3248CKT)

An additional cable harness would be required to connect the following items to the AV Cart:

1. Microphone (hard wired). This is included in the design in addition to wireless microphones.
2. Keyboard/Mouse.
3. PC Display (if needed, should be noted by end-user).

Connection Point (FB)

Floor Box, at two positions flanking screen.

There would be an umbilical cable assembly from the AV Rack to this position under typical use.

Top of AV Rack

At the top of the AV rack would be a Document Camera, Touch Screen controller for switching cameras, controlling audio, active video input, etc. These controls would be coordinated with the AV Contractor during commissionning.

NOTES:

1. Owner or End-User should approve this configuration, or comment on required adjustments.

Front of AV Rack

All AV equipment would be mounted and accessible at the front of this rack cabinet:

1. Fixed Rack Mount or Tower Type PC.
2. Auxiliary Connection Panel (in leu of a top mounted cable cubby).
3. Misc AV equipment (switcher, audio components, etc.) Note that these items are required for operation, but do not require interface with the end-user.

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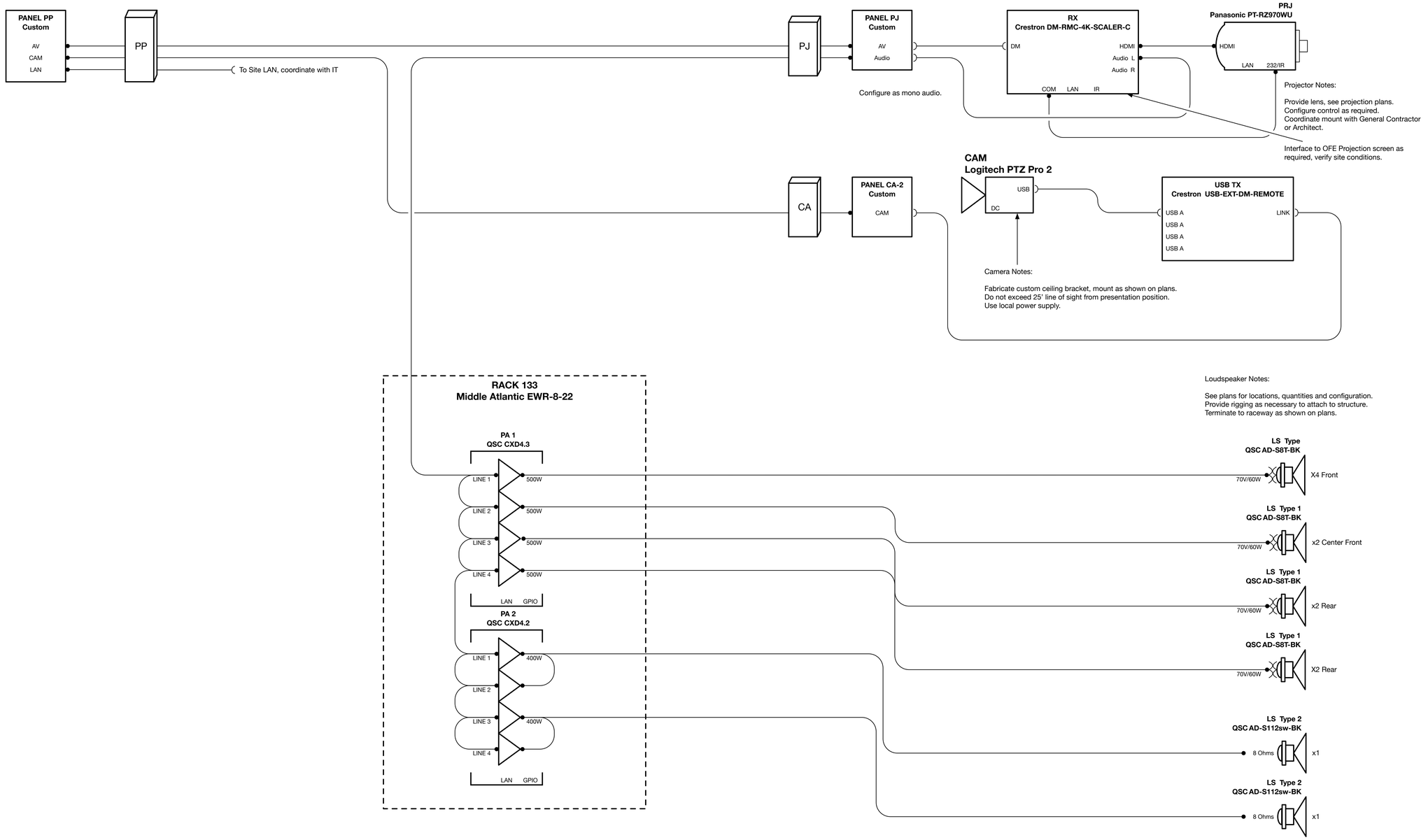
CHECKED BY:	Checker

Lectern Details

AV3.1

SCALE: As indicated

Attachment F, 44140 MUW Revised AV Drawings.xlsx



1 Lecture Hall 126 Single Line

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DRAWN BY: RWA
CHECKED BY: Checker

Lecture Hall 126 Single Line

AV3.2

SCALE: As indicated

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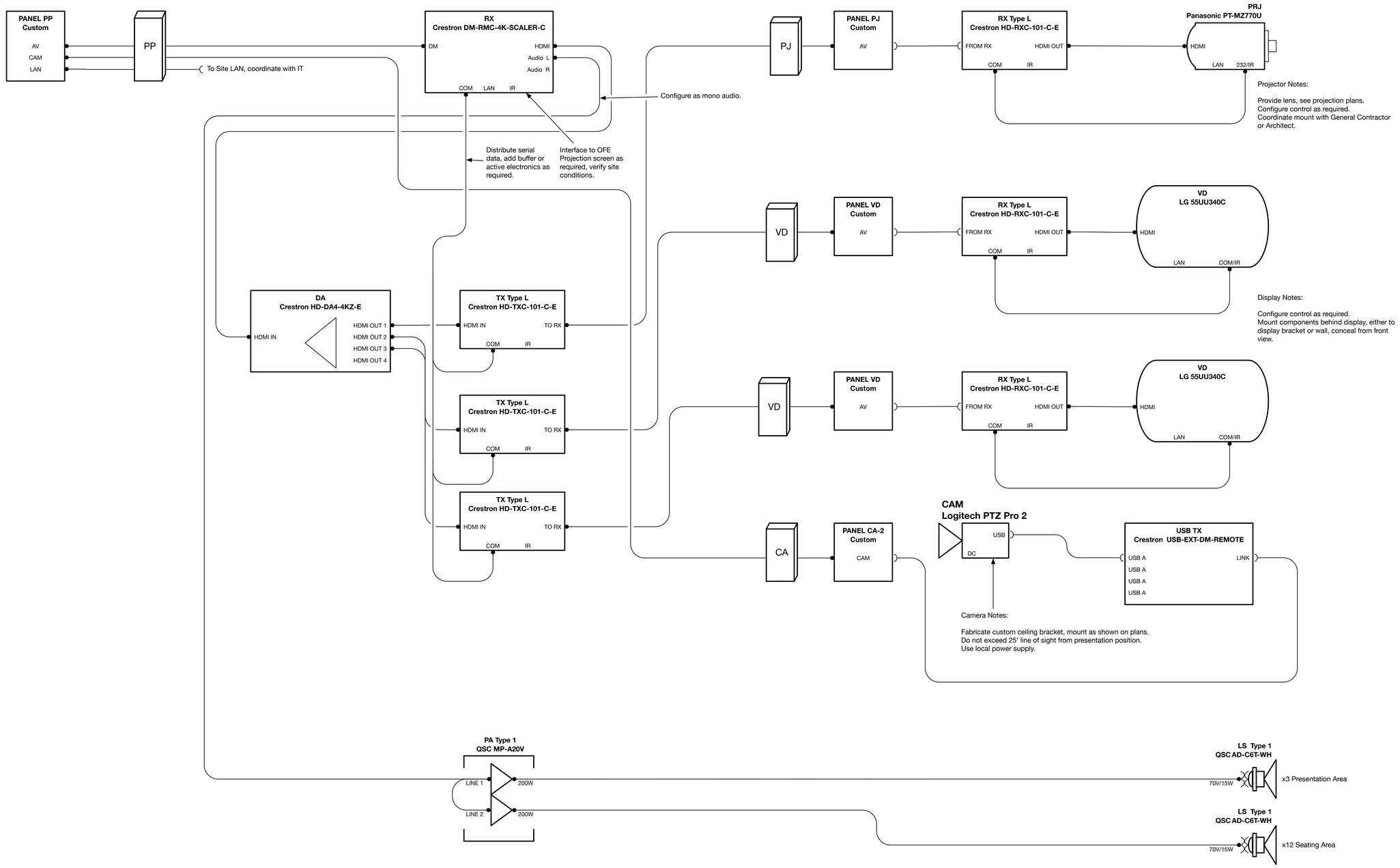

1 Classroom 219 Single Line

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Consultants in Acoustics & Audio Visual Technology

356 CR 102
Oxford MS 38655
662.513.0665

www.rwaconsultants.net

PryorMorrow

G.S.#104-187
Demonstration School Renovation
Bureau of Building, Grounds and Real Property Management
Columbus, Mississippi

MARK	DATE	DESCRIPTION
SD	June 17, 2016	SCHEMATIC DESIGN
DD	November 30, 2016	DESIGN DEVELOPMENT
CD	May 31, 2017	CONSTRUCTION DOCUMENTS (75%)
CD	July 14, 2017	CONSTRUCTION DOCUMENTS (Approval Set)
CD	21 March 2018	AV PROCUREMENT / OWNER REVIEW

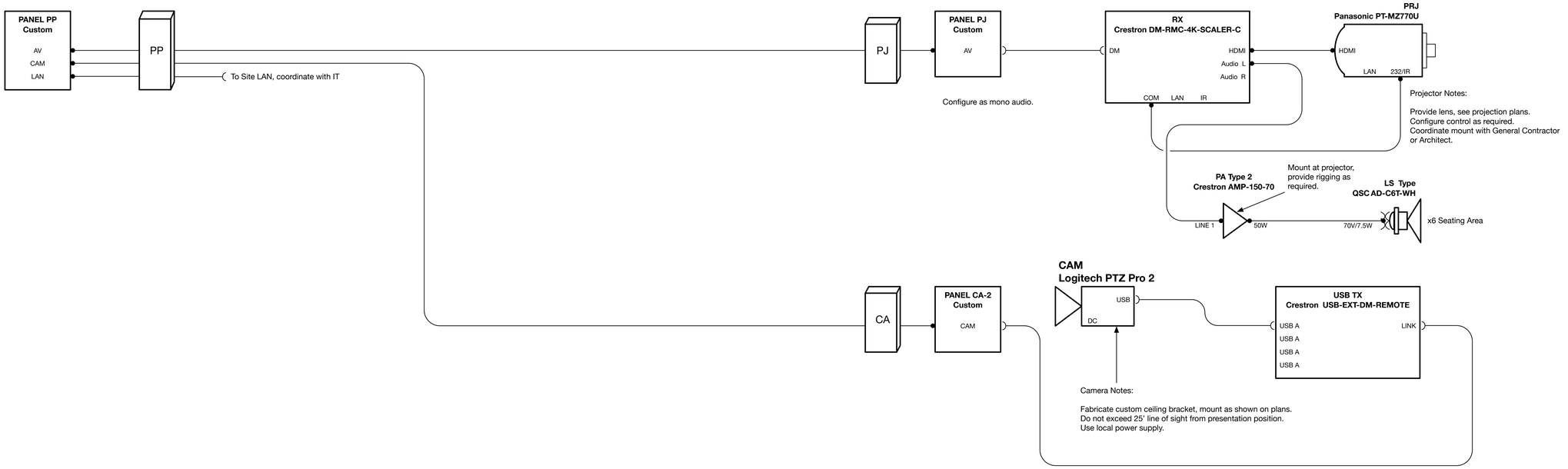
PROJECT NO.	2016111
DRAWN BY:	RWA
CHECKED BY:	Checker

Classroom 219 Single Line

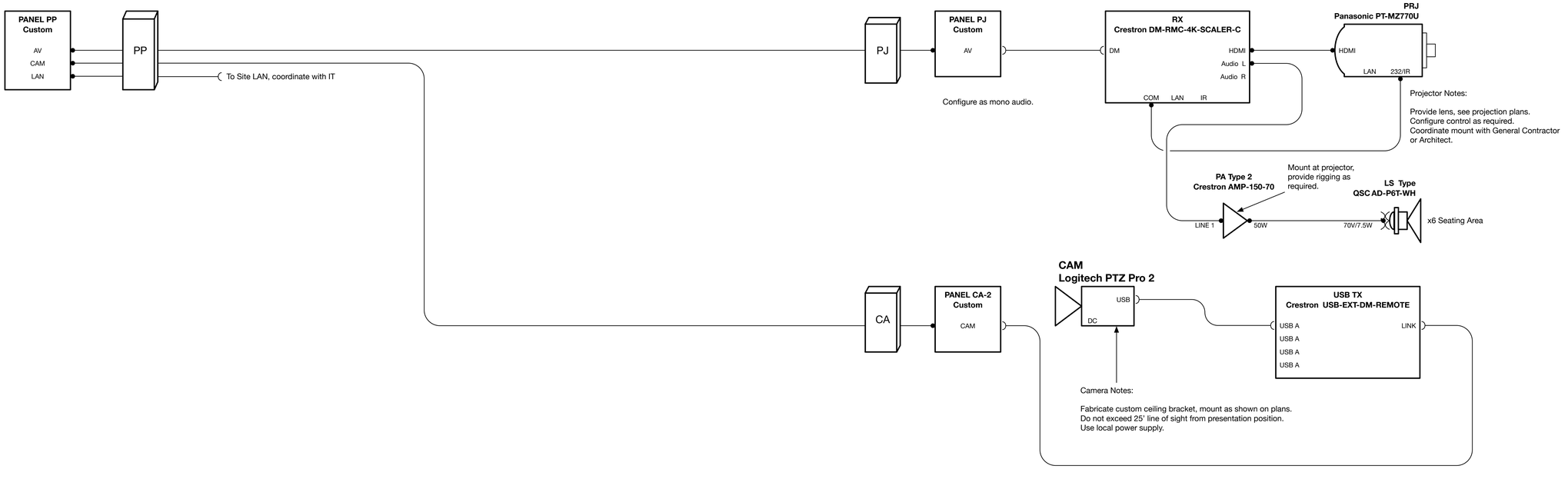
AV3.3

SCALE: As indicated

Attachment F, 44140 MUW Revised AV Drawings.xlsx



1 Classroom 201 Single Line



2 Classroom 206 Single Line

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DRAWN BY:	RWA
CHECKED BY:	Checker

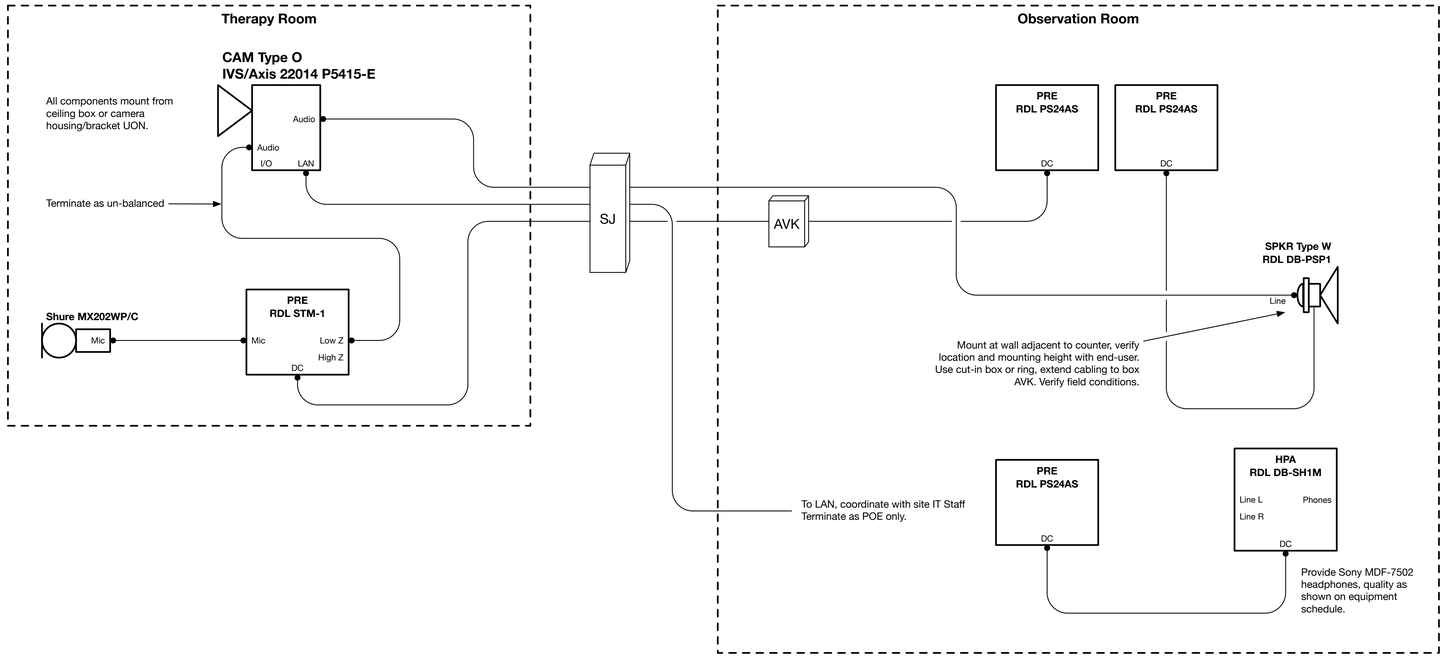
Classroom Single Line

AV3.4

SCALE: As indicated

Attachment F, 44140 MUW Revised AV Drawings.xlsx

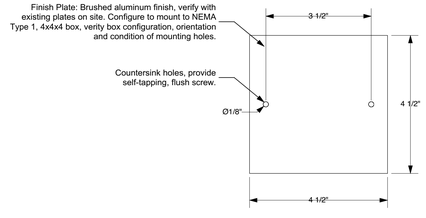
NOTE: Configuration is typical, see equipment schedule for quantities.



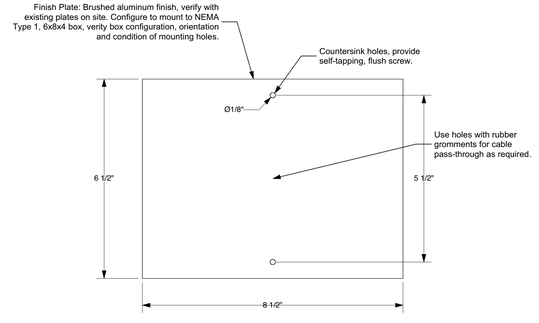
Therapy Room Notes

1. Configuration is typical, see equipment schedule for quantities.
2. See plans for locations, verify final locations for all devices with end-user.
3. Raceway is not provided for all endpoints, cut in mounting boxes and cabling as required, coordinate with architect.
4. Coordinate with camera systems software vendor to ensure compliance with services.
5. Coordinate with owner's IT department.
6. Camera system requires a server, locate at IT closet or server room, coordinate with IT department.
7. Coordinate with camera vendor and IT to ensure QoS.

1 Typical Therapy Room Single Line



2 OC Blank Panel Elevation
Scale: Half Actual Size



3 AVK Blank Panel Elevation
Scale: Half Actual Size

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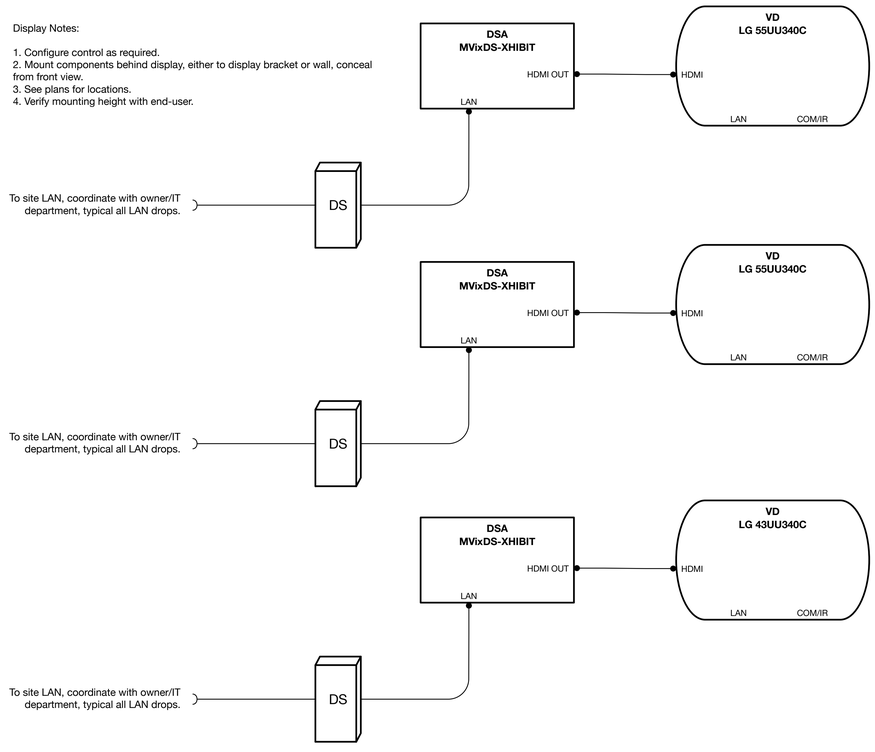
PROJECT NO.	2016111
DRAWN BY:	RWA
CHECKED BY:	Checker

Therapy Rooms Single Line

AV3.5

SCALE: As indicated

Attachment F, 44140 MUW Revised AV Drawings.xlsx



2 Digital Signage Single Line

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PROJECT NO.	2016111
DRAWN BY:	RWA
CHECKED BY:	Checker

Digital Signage Single Line

AV3.6

SCALE: As indicated